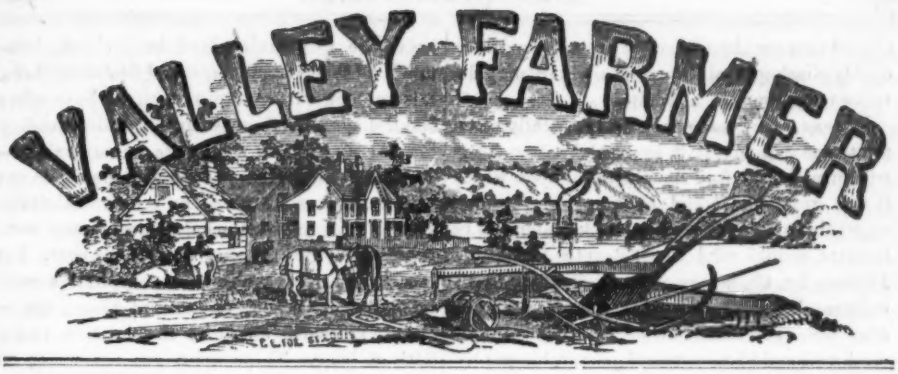

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FARMERS SHOULD READ MORE.

Knowledge is desirable to persons in all pursuits. It is a passport to respectability. An ignoramus can never be respected. The more intelligence and knowledge one possesses, the higher will be his *status* in society. Of course moral worth is an indispensable adjunct. But with moral worth and intelligence combined, a man will be honored and respected every where. To be moral requires but little care and toil. It is much easier to be honest than to be dishonest. And then it is so much pleasanter.

But to acquire knowledge requires toil. It does not come by intuition. It must be sought or it will not be found. It is pleasant to acquire many kinds of knowledge. Most books are entertaining. Biographical and historical works, and works relating to travels and adventures are almost always as attractive to the lover of knowledge as novels are to the sickly lovers of such literature. But works of science are to many minds less attractive. Severe application is required to master them—but to resolute minds the task is sooner or later accomplished. Many of our greatest men, scholars, poets, orators, statesmen and farmers, are totally self educated. There is no royal road to learning: knowledge cannot be purchased. It must be acquired by personal effort, even if one has the advantages of the best schools and colleges. It is surprising how much knowledge even a farmer may acquire in a few years, if he has a spirit determined to acquire it. Every leisure moment will be improved. A few leisure moments before or after a meal will be spent in reading, and the knowledge thus acquired will be reflected upon and inwardly digested when at work in the field. During a rainy day and at night the book will be again in use, and thus every moment will be spent and no day will pass away without some acquisition of knowledge.

We believe, generally speaking, farmers work too much, and read and reflect too little. We would be glad if we could be instrumental in causing them to pay more attention to the culture of the mind. It is as important—yes far more important than to cultivate soil; yet they should go hand in hand. The long fall and winter evenings will soon be here, and we beg our readers not to squander the precious time that will be afforded them for the acquisition of valuable information. To farmers' sons are our remarks particularly addressed. Whether they wish to remain on the farm or embark in other pursuits, it is important they should form industrious habits; that they should carefully husband time; that they

should prepare themselves to properly and honorably discharge all the duties which may devolve upon them in after life.

We say, then, save the money usually spent for trifles and invest it in good books. They will furnish you food for the mind upon which it will grow, and stand by you your guardian angel throughout life. Those who intend to be farmers should read works devoted to Natural Philosophy, Chemistry, Botany, Geology, Agriculture, Horticulture, &c. But they should also have general knowledge. They should read works of history, travel, poetry, biography, and keep up with the intelligence of the age.—Then will agriculturists be respected. Then will agriculture be considered, as it truly is, one of the learned professions, and its followers will be honored according to their respective merits.

[Written for the Valley Farmer.]

DRAINING.

In the absence of scarcely seeing the *Valley Farmer*, and learning that it is principally devoted to agriculture and its improvments, stock raising, &c., induces me, even in such times as these, to contribute for the good of those whom it may interest a dissertation on farming in general, particularly on the growth of wheat, the draining of land, and the saving of hay.

Why I confine myself for the present to these three topics, is, that I consider if wheat was properly put in generally, it would yield double the present average crop; that if hay got less sun in its saving, it would be a vast improvement every way; and last, though not least, the draining of land saturated with surface water for the greater part of the year, thereby rendering it valueless either for crops or grazing.

The hay season being over, and the sowing of wheat not essential to offer advice on at this time, I will confine my remarks to the subject of Draining:

That in almost every thousand acres in the bottoms, many swamps exist—some permanent, and more drying up in summer; that most of these swamps are free from springs; that scarcely any exist that are not adjacent to some brook or river; and that none exist that do not afford to be drained, I have no doubt. But it may be adduced in argument, that draining is expensive—that land swamped is not wanted, not worth the expense of draining, &c. These obstacles I will remove, by observations founded not on theory, but practice and experience. To drain any bottom land is comparatively inexpensive to draining land in Ireland, inasmuch as there it is underground draining; here, it is but one surface drain, with perhaps some small diagonal tributary surface drains, leading into the main drain where the swamp exists.—For the information of such farmers as do not well know how to make an economical drain, I will give an idea what a drain may cost, taking it for granted that no spring exists. Let me suppose that on a farm, say half a mile from a river, brook, or inclined plane, ten or twenty acres are wet from the 1st Nov. to the 24th of June. These acres are not worth 25 cents an acre to the owner while dry the intervening months; but if dry all the time they may be computed worth one to two dollars an acre, for any use. This land if dry would yield a heavy crop of hay, if not inclined to produce weeds; but if so, as soon as fit it ought to be fallowed for corn or oats. I would undertake to drain these acres at that distance at no more expense than from ten to twenty dollars. The way to do it is this:

The first calculation that is to be made, is, what body of a constant running stream is the drain to carry off; or is the drain to be only made to carry off a certain quantity of stagnant water there many years, as also any that may fall during rainy weather. No matter which. In short, a small drain PROPERLY made is sufficent to carry off a large body of water. When I say properly made, it must be of a certain form. It may be about two feet deep, about four feet wide at the top or surface, and only one foot in the bottom: thus made, it never needs cleansing, for the sides will not fall in, nor can cattle injure the drain. To make such a drain, the plow is to perform the main part of the work, the men shoveling are each to take his share, measured to each equally.—The clay should be thrown four feet from the edge of the drain, so that cattle may not tumble it in—and a drain on level ground ought, with ten men, to be made in one day, with long-handled shovels. ***

How to Make a Cement for Stoves.—Take fine salt one part, and two parts of fresh, hard wood ashes, mix well together, then take cold water, and mix into a mortar. Apply to the crack either warm or cold, and you will find a cement which will answer all common purposes, and found to be very useful where the stove-pipe joints are not as tight as is desirable.

Still Another.—Take iron filings, and mix to about the consistency of putty for glazing, with white lead and linseed oil. Fill in the joints as securely as possible, while the stove is cold, and let it stand a day or two before using.

From the Journal of the Ills. State Agr'l. Society.

Essay on the Cultivation of Field Crops and Preparation of Soils.

BY J. B. TURNER, JACKSONVILLE, ILLINOIS.

(Concluded from Sept. No.)

But although the mass of soil cannot be too fine or too much comminuted—at least by any process of art—it may be too loose and puffy—too full of air—for each of the purposes mentioned both of the roots and of the processes of absorption; and land, new plowed, without rolling is very apt to be so, especially if plowed till it is fine, or if designed for wheat. Hence, we so often see the best corn and wheat on the headlands, where the teams have tramped it most. This is because their tramping has made it fine in quality, that is, it has broken up all the lumps and clods, as the roller would have done, and has also made it properly compact, instead of leaving it light and puffy and full of surperfluous air; for if the soil is too light and porous and open, even if fine, the air will pass into it too freely and dry out again all its deposits of moisture or gas as fast as it makes them, while all other processes from below will be interrupted from the same cause; for neither absorption nor capillary attraction can go on where the materials are too coarse or too loose and open, or too close and compact, no more than a lamp can burn with a wick made of tow shives and chips; or of untwisted cotton; or from a pine board. SIMPLE FINENESS with COMPACTNESS is what is wanted, both in the plowed wick of the field and the burning wick of the lamp, without either COARSENESS or HARDNESS or LOOSENESS. Hence the winter's frosts and snows put many soils, plowed in fall, into the best possible trim for a crop. Others, which run together more freely, they leave too hard, and they will need plowing again in the spring, and perhaps rolling too if found too lumpy or puffy.

Whether in *sub-soiling*, the bottom furrow should be left below, or thrown to the top, depends wholly upon the season of the year and the nature of that sub-soil. It is seldom well to throw much of a sub-soil that has never been stirred, to the top in the spring of the year, for it will rarely become sufficiently fine and rich in its texture to answer well the purposes of a surface soil, till it has been exposed to at least one winter's frost: and some sub-soils are totally unfit ever to be brought to the surface except by slow degrees, and should be left therefore at the bottom. But some sub-soils, so called, are exactly of the same character as the soil above, and in that case of course it matters not which is at the top.

Under-draining is a sort of short-hand way of virtually plowing the ground three feet deep instead of one foot or less: for by reducing the general water level in the soil, especially if inclined to be wet, and by the action of the water trickling through its pores, it increases its power both of absorption and attraction, much as a very deep plowing will do: and all such methods of permanently deepening the power of the soil cannot be too highly commended to all those who have the means and the taste for such outlays.

III. I have thus spoken of the chief defects in the upper surface of the plowed field, and in the mass of the land stirred, I now come to speak of defects at the bottom of the furrow slice, which are almost universally overlooked, and are still of the utmost importance. They relate mainly to two points; first, too great a degree of *hardness*, amounting, in some cases, to an almost absolute impenetrability; and second, too little *facility* of *drainage*.

Suppose a man, on a close, adhesive soil, naturally inclined to pack and bake hard under any pressure, like most of our soils at the West, has intended to plow his farm well, and has actually done far better than most of his neighbors; suppose he has plowed it year after year for twenty years full six inches deep, every year the sliding of the heel of his plow, and the tramping of his horses in the furrow year after year at the same depth, in all sorts of weather, wet and dry, has plastered down and tramped down the sub-soil at that depth until it is now about as hard as the bottom of an iron kettle; and if he had taken his farm to the foundry and got a cast-iron bottom put in it six inches below the surface, it would hardly have been in a worse condition than it really is. The poor man avers that he has always plowed deep (which is true), and still he gets but small crops. Now let him be persuaded to set his plows only two inches deeper, and rip up this cast-iron bottom, and by this time it has got so hard that, on some soils, it will probably take an extra span of horses, if not more, to do comfortably even that. Well, what is the effect? and what is the cause? Why, the effect can be told in two words—a *fine crop*: but the cause is said to be that he has brought into use simply two inches more of soil. It is all fudge. He has in fact brought into use perhaps twenty; perhaps one hundred feet more of soil. On his old "cast-iron" plan it is true that the roots of his crops would in some way continue to struggle through the hard pan that he had thus created,

or he would have had no crop at all. But the nice and more delicate capillary attraction from below, which a single straw can interrupt, could not get along with it so well; this could not burst through the bottom of that iron kettle until he broke it anew with his plowshare, though from his good culture above it struggled manfully to do so. It did all it could to help him, recognizing his real merit, but it could not do it till at last he helped himself by setting his plow a little lower and doubling his team, then away goes his cast-iron under crust, and up comes the substantial riches, not of two bare inches, but it may be twenty feet, or even a hundred feet of sub-soil. That man has "struck a lead," as the miners say, and ten to one if he don't run his deep plowing hereafter clean into the dirt, and swamp all his oats and wheat in the process.

This case of a hard pan, either natural or artificial, is analogous to that of a tight thread or wire wound around the lamp-wick below, and stopping the capillary attraction upward.

2. The next fault of the bottom of the furrow slice is, want of drainage. Now, surplus water, as we all know, is a great evil, especially some spring seasons in Illinois, when it cannot stop to rain, but must pour all the time, Sundays and all. If we pour water on the table or floor, we observe that it will literally, to a certain extent, pile up before it will begin to run at all, even when there is nothing in its way. But if we make a mark or crease or lead, however small, with the finger or a knife, it will begin immediately to run off. But most of our plows cut the bottom of the furrow slices perfectly level, like the table or the floor, and make no leads, or crevices, or drains, by which the surplus water can begin to run away: the inevitable result is, that on wet lands and in wet springs, it stands and soaks, and steeps, day after day, and sometimes week after week, till it is literally boiled away by the heat of the sun, thus taking all the proper natural heat out of the soil, which should have been reserved for the crop, as well as flooding both the field and crop with an utterly unmanageable quantity of surplus water. Now suppose that instead of this awkward arrangement, the plow should be so constructed as to make a proper drain in the bottom of each furrow to lead the water off; and suppose that each drain should draw off but a single barrel of water, in a wet time, in twenty-four hours, then in each twenty-four hours we should ordinarily get rid of two hundred and forty barrels per acre and save to our crops precisely the amount of heat from the sun per acre which it requires to boil away two hundred and forty barrels of water, besides securing the comfort and convenience, which work on dryer land always gives to man and beast, in addition to the increase of the crop.

Now, all know what a splutter the lamp-wick makes when surplus water gets into it, and how all its functions are stopped at once. It is true your standing or surplus water on the plowed field makes less fuss, but only because it induces at once the paralysis and stillness of death, and these great processes are all as fully stopped for the time as they are on the surface of the sea, as heretofore explained.

The practical result of these principles will be that a man should plow deep or shallow, according to the nature of his soil and the crop in view; generally deeper on compact, barren lands than on rich, black prairie soil; generally deeper for corn than for small grains, especially on rich, black lands, and always as light as possible when the main object is to kill grass or weeds, as after harvest on stubble lands.—But if a crop of corn is to be put at once upon grass land, *double plowing*, either with a Michigan plow, or with one team after another, is needful, if not indispensable. On wet or flat lands the ground should be plowed in narrow lands, so as to convert the dead furrows into natural drains, if the ground is not underdrained, as the loss by standing water is much more than the loss by the dead furrow, though made deep year after year; especially is such ridging, preceded by deep plowing as deep as possible, under the trees on the crown of the ridge, indispensable for orchards and fruit-yards on flat lands, though under-draining is still better. In plowing corn, the first plowing after the harrow or roller should be as deep and close to the roots of the young corn as possible, but never near enough to cut them; for nature never gives any more roots than are needed, and though the cutting of the roots may not lessen the amount of fodder or stalks, it surely will that of the corn. Never cultivate more than half the same row at once, unless you take the whole of it, as all modes of lapping the culture in the middle of the row is just so much waste power of the team; if thorough or double culture is given anywhere, it should be close to the corn where it will do some good, and not in the middle of the row, where it can do little or none, except to waste the strength of the horse for nothing.

In all possible cases make the ground fine

and free from water as possible, at whatever depth plowed, either by plowing in the fall or winter, so that the frosts may fine it, or by rollers, draggles, harrows, or whatever else can be made to do it most effectually; and the more frequently and thoroughly such crushing and pulverizing processes are repeated, whether the crop is on or off, the better will be the crop; for, as we have seen, pulverization (fineness) is more important to these great processes of nature than depth, or any other single item. Hence, bar-plows, though the best of all instruments for killing weeds in corn, are the worst of all for the cultivation proper of the soil; for in fact they do not cultivate cloddy land at all: they merely roll it up in the sun and make it more cloddy than it was before, and often lay bare and cut the roots of the young corn so as to diminish the crop from ten to even twenty bushels per acre, while still the stalks grow well. Some form of the double shovel plow, either for one horse or for two, will always in common seasons, give more corn to the acre, with less labor than any other mode of cultivator or plow that I have ever seen, for it leaves the ground deeper, finer, smoother at the surface and better drained, and therefore better prepared for heat, for attraction, absorption, and for a *nidus* for the roots of the young corn. Frequent culture so as never to allow any crust or hardness on the surface is also of more consequence than even deep culture, for reasons explained above. I will not say what instruments I think will secure all these ends better, and with less labor for man and beast, than any other, for my business is now principles, not implements; but I will say, that whatever implement or theory, or mode of culture, however fashionable or popular now, that is not based upon the principles which I have thus (though very imperfectly) attempted to explain, is destined soon to go under: for these great principles will live as long as the sun shines, or the dew falls, or the water runs into the sea: and if we fight against them, we fight at once both God and Nature, and shall not be likely to succeed; but if we would at once conform all our implements and processes to them, it is my firm conviction that the same labor of man and beast in Illinois would produce at least double the crop we now do.

And now, my friends, I care not whether I or any one else can mathematically or scientifically demonstrate one single thing I have said to you, or whether mere theoretical and philosphical men receive or reject these principles—I still believe that they are substantially true; and I know that if you work upon these principles *you cannot be greatly led astray in the* PRACTICAL RESULT. And if I can, by any means, lead you to think and to feel that when you are plowing you are not simply turning over dry clods of dirt in the field, but that you are plowing the sun—plowing the ocean—plowing the air—plowing all the heights above and all the depths below; and that if you plow rightly all these will at once respond to your work, I shall have accomplished all that I have sought, both for your agricultural and financial, and your mental and spiritual good. Weary plowman! look outward and upward, then, from thy toiling furrow, and bless anew the day when thy God said unto thee, "in the sweat of thy brow shalt thou eat thy bread."

[Written for the Valley Farmer.]

STRAW AS FODDER.

Straw, once, was a principal fodder; but hay and roots have superseded it. Are we not too hasty in this change? There is much virtue in the straw of the different grains; quite equally as much in some as in grass or clover, and a greater quantity in all than is generally supposed. Experiments have repeatedly demonstrated this. It is with grass or clover as with oats or peas or barley. Cut your grain when in blossom, or, better, when the berry is full and juicy; cure it, and you have hay—you have more, the straw is about equal to good hay, and you have the grain in excess.

We have known barley cut when yet green, when the berry was in the milk, and cured in this condition answer a superior purpose. Cattle will readily eat it, and of course thrive upon it. It is so with peas. These early-ripening grains, if cut thus early for fodder, may be followed the same season by some other crop.—Particularly buckwheat land may be treated in this way. The grain crop will leave the soil mellow, and in excellent condition for buckwheat, and to be easily worked. Cure your peas or barley as you would clover; not as clover is too often cured—bleached and blackened till the substance has all escaped; but cure it so that you have it equally green with the best cured hay. Such fodder is equally relaxing with clover.

It is so with corn. Cut it when in the milk, cure it carefully, especially when the stalks are slender, and you have something for milch cows superior to the best hay. And will any one say you cannot raise more corn in this way

than hay? Cut your corn a little later, when the berry is glazed; and an abundant experience has proved that this is the most judicious way to treat corn. There is nearly the same weight of grain; and the stalks will be worth as much as hay, pound for pound if properly cured. If not properly taken care of, it is not worse than hay; not so bad, as it will stand more "weather." Corn fodder, if properly cured, will come out green, a pale green, pliable, juicy, and most truly valuable. Not so does it generally come out, however. The straw is always considered secondary, which is hardly fair, and which is certainly not necessary: for what will cure the grain, will cure the straw.

The great, the universal error, is, we ripen too much: not only grass, but grain. A somewhat green stalk, and a soltish berry—that is the time to cut your grains. There is some difference in the different grains: but there is not much. It is remarkable how green barley may be cut, and be all the better for it; equally good for the berry and better for the straw.—Again we say, we ripen our grain too much, both for the fodder and the kernel.

As there will, doubtless, be a scarcity of hay throughout the country, it is the more important that we attend to our straw, and get as much hay out of it as we can. To permit our grain to get fully ripe, and then let it lie on the swath for days and weeks through rain and sun, as is usually done, is to lose substantially three-quarters of a crop of hay or more. The straw is simply worthless for fodder. Cattle will chew it if they have nothing else, and starve on it as every one knows. Let us down then with our grain, when it would seem almost rashness to cut it; so green. Cock it as soon as thoroughly wilted, or partially dry. Put it on small cocks, like clover, so that the air gets through it; and if too closely packed, stir it occasionally. Cure it as the old lady would her "yarbs," with as little sun as possible, and no rain or dew. To this end, use the hay-cap. Of course, your grain requires tending. But you will more than ten-fold get paid for your extra labor. Then you have straw that is bright and tender, and nutritious—that will do one good to handle and see it fed out. The method of treating straw in this way once thoroughly tested, there will be no going back to the old method of letting it go to waste. We hope farmers will give attention to this subject, and at least experiment on it, note carefully the effect on the stock, &c. Let it always be remembered, that grain, so far as the ripened berry is concerned, is not fodder: it is simply seed—the propagation of the plant—and is different from the berry (in its properties) when in its juicy state. The whole stalk then, when cured, is fodder—berry and all: unlike the stalk when dead, and the seed when matured. The two states are wholly distinct, let it be remembered. It is the difference of wood and the blade of the tree when it first appears; or the difference of wood and grass. When this fact is once fully understood, there will be almost a revolution on the subject.

While I am writing this, a field of oats is in full view, all on stouts; a pale green without, heads and all, and green as grass within. These oats were all bound in sheaves, rather small; some eight or ten on a stout, capped with a single sheaf, heads of sheaf downward. They were cut one day, left a day in the sun, and then bound and put up. They have been standing in this condition some four or five days. In a day or two they will go in, and will be cut for fodder, unthreshed, principally for horses. It will afford the horses their only feed during the winter. In walking over the field you will not find a single berry shelled.—The ground is as clean as though no grain had been raised. The straw is not brittle; makes no noise when you handle it; has a sweet smell and no dust; has weight and pliability and cured juices, and no wood—all is nutrition; all is what it would be when green in the field, except the water, only that: that, has escaped, but has taken no strength with it. It left the oils, and the sugar, and the starch, and other ingredients. Thus the juices are only concentrated, and are very delicately held; a strong heat would evaporate them; rain and sun would destroy them, and leave only a worthless, woody fibre. It will thus be seen what influence the weather has; and what a tender thing grain is; and hence, how carefully it should be handled. Yet the labor is less, thus handled, and more agreeable than with the old method. Besides, you will harvest your grain earlier, from one to two weeks, according to what use you put it, whether you wish to thresh it—in which case it must be riper—or feed it without, simply as fodder or hay. It will also cut easier; will not "nick" down, as is the case when fully ripened.

F. G.

Patented Plows.—1,000 patents for improvements in plows have been granted since the foundation of the Government, and two-thirds of these have been issued since the year 1847.

ALTERNATION OF CROPS.

It is unquestionably one of the best and most economical means of preserving fertility, and of increasing the profits of the farm. All crops exhaust the soil, more or less, of the general elements of fertility, though all do not exhaust to the same extent, nor do all exhaust it alike of certain specific properties. It is believed that every plant requires a specific food, which other families do not stand in need of, and which they do not take up. This is evidenced by the fact that wheat cannot be profitably grown on ordinary land, in two successive years on the same field without a great falling off in the product. And it is now laid down as an axiom in good husbandry that two crops of any small grain should never be taken from the same field in successive years. Because they draw too largely upon the same specific food.—But after an interval of four or five years, in which grass and roots intervene, the specific food of the wheat crop has so accumulated in the soil that this grain may then be again profitably grown upon it. So with all other crops, not even excepting the grasses. The law of Nature's change in the product of a soil is so palpable that in Flanders and Holland, where flax is a profitable staple, they do not think of cultivating this crop upon the same ground oftener than once or twice in ten or twelve years.

Our farmers, some of them, appreciate these truths in reference to tillage without reflecting that they apply as well to grain. Meadows, too, deteriorate; in a few years the finer grasses run out, because the soil becomes exhausted of the particular food which affords them nourishment; of course, innutritious plants take their place and the herbage becomes too compact and hard to admit the free extension of the roots, and the genial influence of the sun, dew, and atmosphere, which are primary agents in the process of vegetable nutrition.

Tillage corrects these evils. It cleans the soil of weeds, and converts them into sources of fertility; it breaks and pulverizes the soil, and fits it for the return of the grass crop at the close of the rotation, while the vegetable matters of the sward contribute to augment the grain or root crop which is to follow.

All green crops are more or less fertilizing when buried in the soil; but clover is to be preferred as well on account of its enriching properties to the soil, as that it also affords pay and pasture. The practice of sowing clover seed with grain crops is adopted by some farmers every year. Judge Buel followed this plan, but he plowed his field the following year. The food which this clover affords to the coming crop, richly compensates for the cost of the seed and sowing, to say nothing of the pasture it gives in autumn. Hence, tillage is admirably calculated to fit and prepare the ground for grass, while grass, in return, directly or indirectly furnishes an abundance of food for grain or roots. The fertility of a soil depends essentially upon its power to absorb water by cohesive attraction, and this power depends in a great measure upon the state or division of its parts—the more divided they are, the greater is their absorbent power.—[*Ex.*

RYE.

There is no better test of the hardiness and value of rye, than the fact that it has a place upon the most exhausted farms. It bears abuse and neglect better than almost any other grain. The facility with which it can be raised has been nearly fatal to much good land in the north. When wheat could no longer be grown with profit, rye took its place, and as it would yield remunerative crops without manure, land was sowed to this grain with no other rotation than grass, until it would not pay for plowing. It is still a common practice, notwithstanding the inroad new ideas have made, to turn up old pastures and exhausted meadows and sow with rye without any manure. A crop of ten or fifteen bushels will about pay expenses, and many farmers are satisfied with this scanty yield.

A rich hazel mold, well drained, or naturally dry, is the best soil for rye. If it is light, it should have manure. The great luxuriance of this plant upon newly cleared forest land shows that it delights in a soil well stocked with food. It is a good plan to manure broadcast, and plow in ten or twelve loads of stable manure or of good compost, but still more important to apply a part of the manure, which should be well rotted compost, to the surface, and harrow in with the seed. One of the best dressings for this crop is 'fish-pie,' or compost made in June, and applied in September at the time of sowing. This is a favorite manure along the sea-board, in the rye-growing districts. The fish are sometimes applied broadcast to the green-sward several weeks or even months before the land is plowed; but this is a very wasteful practice. No better rye is raised in the world than along the shores of Long Island Sound, with this fertilizer. A yield of forty bushels to the acre, under favorable circumstances, is sometimes realized.

It is very much better to use some manure

and get twenty-five to thirty bushels to the acre, than to sow on sward or stubble, and get ten without any manure. As rye will sprout at a very low temperature it may be sown late, but does much better to be put in in September. If it grows too luxuriantly, it may be fed off in October with calves or young stock. Sheep are apt to feed too close and pull up the roots. Late feeding is injurious, as it would leave the roots altogether too bare for winter.

The true place for rye is not as a crop to filch from the soil its last elements of fertility, but to come in, in a judicious rotation of five or six years. A good farmer ought to be ashamed to raise less than twenty-five bushels to the acre, when, with a little more manure, he may just as well get thirty-five. Rye should have its place in the rotation until we have brought up our farms to a condition where they will grow wheat, an event that is sure to follow tile-draining, and a higher state of fertility.

We have not as many varieties of rye as of wheat, and not much is generally known except of the common winter grain. Spring rye is very little grown, most farmers preferring spring wheat or barley, where they have land in condition for any spring grain. The white rye, raised extensively in New Jersey is a fair, handsome article, about the color of red wheat, large and prolific. It is not yet very widely distributed, but enough is already known of its productiveness, hardiness, and other good qualities to determine its value. There is a fine field here for the enterprise of some wide awake farmer. This grain is as susceptible of improvement as wheat or barley, and a few years of careful cultivation from select seed would give us improved varieties unquestionably much better than anything we now have.

This grain is highly prized in all the districts where wheat is not raised. Chemical analysis shows that it is but a little below wheat in nutritive value, and this estimate is confirmed by the analysis of the stomach. Well bolted, it makes excellent bread, the best substitute we have for the wheaten loaf, and by some preferred to that standard article. As a variety, it is highly relished at most tables, if not in the loaf, at least in short-cakes and biscuits. The bran is indispensable in the loaf of brown bread, which is a good old institution handed down from our grandmothers, and which we trust will be perpetuated to the latest day.

The straw, always the most economical bedding for stables, has of late years become of considerable value in the arts, selling as high as fifteen dollars a tun. But this of course only benefits the farmers in the limited districts near the factories. In the packing of winter fruit, it is thought indispensable by some of our best fruit growers. Rye has always a good home market, is one of the surest crops, and deserves more careful culture and selection of varieties. —[*Am. Agriculturist.*

Mortar for Building.

In common practice, the cohesion of mortar is greatly impaired by using too large a proportion of sand; it should never exceed two parts by measure to one of lime paste. A cask of lime weighing 280 lbs., made into eight cubic feet of lime paste, should be mixed with sixteen bushels of damp sand. The notion used to be generally entertained that the longer lime was slaked before it was used, the better would be the mortar made of it.

This, however, is not the case with our common fat lime and sand mortars. The sand should be mixed with the slaked lime as soon as the latter becomes cold, and no more water should be employed than will reduce the lime to a thick paste. In preparing mortar, the unslaked lime should be placed on boards and sheltered from the sun and rain; it should be open above and surrounded with some sand. The water necessary to slake lime should be poured upon it with any suitable vessel, and care should be taken to stir the lime so as to bring the water in contact with every portion, when it may be left until all the vapor has passed off.

The sand may now be incorporated with the lime by means of a hoe or shovel; and, if necessary, a little water may be added to produce a homogeneous, consistent paste, when it is ready for use. Sand from the sea shore should never be employed for making mortar without being first washed with fresh water, because the salt left in such sand is liable to absorb moisture and prevent the mortar becoming hard.

In putting up walls of brick or stone, care should be taken that the stones or bricks be moistened before they come in contact with the mortar. Every brick and stone should be laid in a good bed of mortar, and should receive a blow to fix it firmly. The bricks should not be laid merely as is the common custom, but forced down so as to press the mortar into all the pores and crevices. The superintendent of a building should give his personal attention to the vertical joints in the walls, as the masons frequently neglect to fill them up with mortar.—[*Scientific American.*

The Grain Weevil.

Ed. Valley Farmer: Having read the statement about the Grain Weevil in the September No. of the *Farmer*, it put me in mind of my experience with the weevil, from my first recollection to about the year 1846. My father was always more or less troubled with it. Having a large barn, his practice was to stack his wheat in it, and during winter or spring to thresh it out on the barn floor by hand or horse. Sometimes a crop would lie over summer. The wheat was always more damaged the longer it lay in the barn. The weevils always stayed in the barn from year to year, and came from the inside of the grain, leaving the berry hollow; but the untouched grain would grow the same as peas that have bugs in them. The weevil was undoubtedly of the beetle family, and to the best of my recollection, just such as are described in the *Farmer*. The color was for the most part black, but some were a dark brown. I have seen them by hundreds in corn fodder that was stacked around the barn; and the last damage they perpetrated was to eat up about 300 bushels of old corn in the crib (there being no wheat in the barn), since which time there has not been any wheat stacked in the barn, the usual practice being to thresh it out from the field.

Now that the weevils are all gone from the barn and the wheat is perfectly clear of them, I am of the opinion that it is the stacking grain in the barn that first gives them a start, after which they will attack wheat and corn in any condition that is stored in the barn. Having got entirely clear of them (and it took about two years to accomplish it), I can leave my threshed wheat in the barn without any damage to it. Cannot some one tell something more in regard to the depredations of these little pests.

Early corn is excellent; peaches and apples rather scarce; and the ground entirely too dry to plow; some rain yesterday, but it did little good. S. S. Bailey.

Dundee, Mo., Sep. 6, 1862.

Raising Turkeys.—The turkey is not so easily raised as other fowls. He is tenderer when young. He fears the cold and the wet: the two combined will surely kill him if he is exposed to them when young. Even the dew will kill turkey chickens when just hatched.

To raise a good crop of turkeys, keep them in a dry place for several weeks: and if longer, all the better. Corn is the best feed; but it must be broken. Corn meal and thickened milk are unobjectionable. Grind coarse, which seems to be preferable; so say those who have tried it. In this way there is no difficulty to raise turkeys. F.G.

Sorgho Culture and Manufacture.

by m. day, jr., mansfield, o.

As the culture and manufacture of the sorgho plant is still in its infancy, and no one knows much about it as yet, it is well to hold conference meetings and compare ideas, that perchance light may come out of darkness.

My attention was first turned to the subject in 1859, and since that time I have given myself almost wholly to it. From the little I have learned by cultivation myself, and boiling for others, I beg leave to submit the following:

Get ready. The Sorgho cause is sacrificed every fall by the want of preparation by the cane grower for taking care of his syrup. You may make the very best syrup in the world, and neglect it, it will not crystallize.

Georgia and Alabama can produce just as good cane as Louisiana; but that class of planters who can afford to fit up sugar houses properly, prefer raising cotton. Consequently, while in Louisiana they manufacture sugar, in Alabama and Georgia they make only molasses.

To go into the sugar business properly, the farmer requires a good, warm building in which his syrup need not become chilled through as soon as it leaves his evaporator. The syrup designed for sugar should never become colder than from 80° to 90° Fahrenheit. This, in our changeable climate, requires artificial heat night and day. The aim of the Louisianian is to keep his syrup as near 90° as possible. Until our farmers, then, are willing to go to the trouble and expense of fitting up such a building, or such rooms in their own dwellings, they must not be surprised at failure.

Cultivation—Select a warm, moderately rich soil, in which lime is one of the components, otherwise lime should be fed to it, as it neutralizes the acids in the stalk.

Plow deep in the fall and stir in the spring, reducing the ground to the finest tilth. As soon as the ground is sufficiently warm in the spring, drill the seed in rows about 3½ feet apart, and secure a good stand of cane every 20 inches. Some think time is gained by sprouting the seed, which may be done by soaking in warm water by the stove twenty-four hours.

Stir the ground freely from the time you can see the cane until it is three feet high, tolerate no weeds and pull off no suckers; for though by

pulling off the suckers you secure a larger stalk, you secure a greater yield of syrup and sugar to the acre by allowing them to grow. The juice in very large canes usually requires to be boiled ten to fifteen gallons into one, while small canes return one gallon of syrup to five to eight gallons of juice.

Harvesting—When the head is black, cut up the cane, tie in small bundles, and shock it under a shed. It should by all means be protected from the sun and weather. This arrests the tendency to fermentation and second growth. Permitting it to stand in this way for two or three days, or longer if the weather is cold, allows time for the culmination of the juice to its greatest per cent. of sugar.

If the cane is fully ripe, which may be known by the lower joints becoming quite yellow, it may be worked up as fast as cut; but if the juice is not perfectly matured, the cane should be allowed to season.

Dry fall weather causes a more perfect culmination of the juice than warm and wet weather. In the latter the disposition to germinate is so great that the cane scarcely matures before re-acidulation commences, as the first stage for sending forth new shoots at the upper joints.

In securing this maturity of the juice and preventing re-acidulation lies one of the great fundamental means of success in the manufacture of sugar from any variety of cane, and is difficult of attainment, especially in the Imphee, owing to the disposition in the canes not to ripen together. After topping and blading the stalks we are ready for manufacturing.

In manufacturing I have tried various modes of evaporating. Last fall I constructed a flat pan, with an inclined side, upon an arch, for first heating and skimming the juice, and then running it upon a Cook Evaporator. I also tried skimming upon the evaporator and running the syrup into a separate boiler, in which I had placed a thermometer, in order to bring the syrup up to a particular degree of heat; and I have tried the evaporator without any of these aids. In the first mode the syrup crystalized in forty-eight hours; in the second mode I could not make sugar at all; and in the last mode the syrup crystallized in twenty-four hours. Frequently the syrup left in the cooler at night would crystallize by the next morning.

In connection with the evaporator I used shallow coolers, which I kept in a warm room by a fire, night and day, and the molasses was poured into these and stirred once a day, or until the process of crystallization was complete. I then put it into a draining vessel, with a sieve bottom, for drainage, but during the latter part of the fall I learned a better plan of drainage, which was to put the crystallized mass into a strong linen bag, and subject the whole to pressure. With a good common cheese press, an hour's pressure would bring out fifty pounds of sugar sufficiently dry for market.

I have found that the books have set the scale to which the temperature of the syrup should be raised, altogether too high. A temperature of 240° by the thermometer, makes a perfect taffy of the syrup. I would not make my syrup thicker than about eleven, or eleven and a half pounds to the gallon.

Hybridization—All the farmers with whom I have come in contact speak of the cane as running out, and much of the cane I have worked speaks the fact as loudly as the farmers. I think this is owing in a great measure to hybridization; and could a pure article of seed be obtained, and the crop be kept free from all contamination with broom corn, I should apprehend no danger. In proof of this we have the fact that in south-eastern Pennsylvania and New Jersey they have, since the first year, raised their own seed, and have as good cane now as ever they had. So long as we mature the seed there is no more reason why it should run out than wheat or corn.—[*Jour. Ill. State Agr. Soc'y.*

Cheap Cisterns.

In all soils where a hole may be dug, without the earth caving in at the sides, cisterns may be cheaply made in the following manner:

A cistern required to be ten feet in diameter, should have a hole, for the first eighteen inches of its depth, twelve feet diameter, and beyond this, ten feet, thus leaving a curb of earth of one foot surrounding the cistern. When the hole is excavated, the bottom and sides should be coated with a magma made of Rosendale Cement and water, of about the thickness of cream; this may be put on with a whitewash brush; the watery portions will sink into the soil, leaving a coating of cement on the surface; to this we may apply, with a trowel, to the thickness of one or two inches, a mortar, made of one part Rosendale Cement, and two parts of sand; the sand should be cleaned free from lime, and well washed before its use. This mortar may be of such consistency as to be readily applied and smoothed with an ordinary ceiling trowel, and should evenly cover the sides and bottom. When

a pump is intended to be introduced, one large flat stone should be placed on the bottom, on which the pump may rest. And if set at eighteen inches below, the surface should be covered with a tier of brick, well laid in the same cement which forms the cistern. On this may rest a frame and flooring, or a brick arch may be sprung upon it.

Rosendale cement is now sold in a finished state, finely ground, at $1.12 a bushel, and the expense of building a cistern in the way we have named, is much less than any other method. When once set and hard, its circular form defies the outward pressure of the soil. We have known such cisterns to last for a greater number of years than the best wooden cistern.

In soils which are so sandy as not to permit the entire cistern to be dug at one time without a shelter, build a cistern loosely of wood, place it on the surface of the ground, without a bottom, and with only a rim surrounding its lower edge, and loaded with stone; then dig out the soil from the inside, passing it over the top, and permitting the cistern to settle until at the proper depth; then pour in a grouting between this wooden cylinder and the outer soil, of Rosendale Cement, mixed very thin with water. This will fill up all the interstices, and will help to give strength to the cistern, and if the soil should not lean against the cistern, but permit the magma to settle with the soil, this outer coating will form a perfect cement coating. The bottom may then be cemented with one part Rosendale Cement, mixed with two parts of sand, in the manner recommended above.—[*Working Farmer.*

[Written for the Valley Farmer.]

Farmers' Club of St. Charles, Mo.

August 2d, 1862—Met according to adjournment.

R. H. Overall in the chair. Minutes read and approved. Messrs. Asa N. Overall, Ezra Overall and Joseph H. Alexander, Esq., were elected members.

Pruning passed over for the present; but is proposed to be tried during the month of August.

Gophers and Moles.—Strychnine put in pieces of potato or parsnip, and dropped into their holes and covered over, will destroy them faster than any other method yet known. Shooting and trapping are certain plans when you can enforce them—but very tedious. A deep box, set down below the hole and covered over with plank and earth, is another plan, and said to be a speedy mode of getting rid of this destructive little animal—it drops into the box and there may be killed.

To prevent moles from destroying corn after being dropped in the hill and covered, it has been soaked in a solution of strychnine—but this would require great care in handling and can hardly be recommended for general use.

Elders—Sheep, pastured on this troublesome bush, is said to be an effectual remedy. Cutting them off to prevent their leafing out has been tried with success. Breaking them off near the ground, leaving the stalk rough and snaggled, will destroy them. It appears, therefore, that if the foliage be kept down death ensues. Some dig up the roots and expose them to the hot sun of August; this will do when all the roots are got out.

Saturday, Sept. 6th—Regular Monthly Meeting. R. H. Parks, Esq. in the chair. Minutes of last meeting read and approved. E. A. Lewis, Esq. was proposed and elected a member.

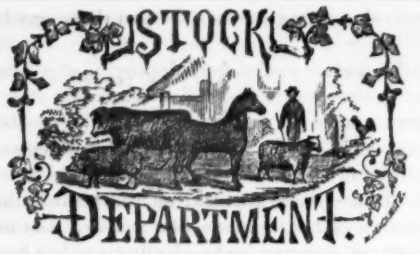
Officers for the next six months were elected: Ezra Overall, Esq., *President*, and B. A. Alderson, *Secretary*.

Pruning—This being the subject of discussion, it was unanimously conceded that one difficulty attendant on pruning is the great number of water sprouts that follow, putting out numbers of shoots of a very vigorous growth, which generally project themselves vertically through the upper branches of the tree.

Members have done some pruning and sprouting during the month of August past with the view of testing its efficacy against after sprouts, as all other seasons seem to be attended with a failure.

Experience teaches that limbs 3 or 4 inches in diameter, cut off in pruning, are apt, in time, to cause the death of the tree by the rot which takes place in the wound. Any plastering over, leaves it as otherwise, a mere matter of time. It is, therefore, a matter of the greatest importance that care should be taken in shaping a tree when young, to leave no more main limbs than are designed to be permanent. The water-sprouts and branches on the upper side of a limb should be cut in a side or sloping direction, so that the rain water will run off, and so that the cup formed while healing over will not hold water and cause the wood to rot. Splitting the bark, with the point of the knife, around a bruise or cut will assist it in healing over, and may be of assistance in forcing the growth of a tree in the opposite direction from the vertical slit.

Adjourned to next regular meeting on the 4th of October. B. A. Alderson, Sec'y.



[Written for the Valley Farmer.]

VETERINARY DEPARTMENT.

By Geo. H. Dadd, V.S., St. Louis, Mo.

COLIC IN HORSES, AND ITS TREATMENT.

There are two forms of colic to which horses are subject: one is known as *flatulent;* the other *spasmodic.* In their pathological conditions they differ very much: for example, flatulent colic—"a painful disorder"—results from a distension of the intestines by the generation and accumulation of wind or gas, which is supposed to consist of carburretted hydrogen, or carbonic acid gas. Spasmodic colic, on the other hand—also a "painful disorder"—consists of spasm of the bowels; a sort of cramp, without distension, accompanied with much pain.

From this brief description of the popular forms of colic, the reader must necessarily infer that the treatment of the two varieties of a "painful disorder" cannot be identical; that whisky and pepper (a sovereign remedy in stable practice) oft-times kills the horse—at least in many cases of spasm must be injurious. Such articles, in consequence of their irritating properties, are very apt to convert a case of colic into one of inflammation of the bowels. Whisky and pepper might not be very bad medicine for a man when the subject of flatulent colic; but horses are not accustomed to such strong stimulants, hence are more susceptible to the physical properties of the same.

I shall now call the reader's attention to some of the most prominent symptoms of the two affections, and then point out the most natural means of treatment.

Symptoms of Spasmodic Colic—The affection is usually sudden in its attack; the horse, without any observable indisposition is all at once seized with intestinal pain; he becomes very uneasy and paws the floor or bedding with his fore-feet; he occasionally turns his head towards the flanks and anxiously regards them, speaking to us after his own language, as much as to say, "Here is the region of my agony." In a short time he has a remission of pain and appears much better; but soon the intensity of another paroxysm causes him to lie down, then he often rolls on his back, in which position he will lie for a minute or so; then, quick as thought, he is on his legs again, gives his body a few shakes, and then will often bite his sides, and will often be seen to strike at the belly with the hind feet. Such are the principal symptoms of spasm of the bowels; and in view of distinguishing this from flatulent colic, the reader must be sure to remember that spasm of the bowels is unaccompanid with windy distension or flatulency, The affection is usually confined to the muscular tunic of the small intestines, for after death we find the circular muscular fibres of the same forcibly contracted, while the longitudinal are shortened, and the bowels appear as if knotted.

Treatment of Spasmodic Colic—This being a disease of a spasmodic character, of course medicines known as *anti-spasmodics* are indicated; these consist of camphor, musk, assafœtida, sulphuric æther, lobelia, &c.

These agents all possess more or less of the properties needed in the treatment of this affection. I usually prescribe as follows:

Sulphuric Æther, - - -	1 ounce.
Tincture of Lobelia, - -	½ ounce.
Camphor, - - - -	20 grains.

Mix, and administer the same from a bottle.

Copious clysters of warm water are to be thrown into the rectum, and the region of the abdomen should be well rubbed with a mixture of equal parts of olive oil and sulphuric æther.

At the expiration of an hour, provided the patient is still in pain, I should give two drachms of powdered assafœtida in one ounce of sweet spirits of nitre. At the end of a reasonable time after administering this dose, should the animal be unrelieved or actually grow worse, we may infer that the case will assume the form of inflammation of the bowels, or else terminate fatally.

I would caution the reader against the popular folly of pouring down *too much* medicine; for the lives of many valuable animals have been destroyed in consequence of attempts to convert their stomachs into drug stores. I am satisfied from a long and active practice of my profession, that the less medicine we use (provided it be of the right kind, and indicated by the nature of the disease,) the sooner will the patient recover: and it follows as a matter of course, that when the medicine is *not* properly selected, the more the animal gets of it the less chances are there for his recovery.

In connection with the treatment of this mal-

ady, it is proper to provide a suitable place (the floor strewed with straw) for the animal to tumble about in, that he may not injure himself.

Supposing the patient to make desperate efforts to injure himself, as is often the case, and he is evidently in convulsions, I should secure the services of a strong man to keep the patient on the floor; then a sponge may be saturated with sulphuric æther which is to be held in contact with one nostril, until the animal is ætherized—and this may be repeated as often as the convulsions occur. I have witnessed the good effects of this kind of treatment in very many cases.

FLATULENT COLIC.

It is not necessary that I should enter into any minute description of this malady, for the swollen abdomen, and the evident presence of flatus or gas in the intestines is proof positive of the nature of the complaint. It is almost always occasioned by a deranged condition of the digestive organs; the food, instead of being properly digested, runs into fermentation, hence the generation of gas. This affection, like spasmodic colic, often comes on very suddenly and in consequence of the undue distension of the bowels by gas; the animal suffers much pain, yet it is of a more persistent character than is the case with spasm. Errors in diet are supposed to be the chief cause of flatulency, yet some animals are subject to periodical attacks, this is probably owing to some constitutional predisposition.

Treatment of Flatulent Colic—So soon as the animal is observed to be the subject of flatulency, immediately prepare and administer the following:

Fluid Extract of Ginger, -	2 ounces.
" " " Golden Seal,	1 ounce.
Carbonate of Soda, - -	3 drachms.
Water, - - - -	6 ounces.

If this has no effect, in the course of half an hour repeat the dose. In the mean time clysters of warm soap-suds should be thrown into the rectum; this plan of treatment usually succeeds in affording relief.

LET YOUR DOMESTIC ANIMALS HAVE SALT.—Animals that are permitted to roam in the salt marshes are generally the most healthy; they consume a large amount of saline material.—The antiseptic property of salt is too well known and appreciated by most husbandmen, and the farmer might as well think of entirely dispensing with food as to fail in seasoning food with salt. No animal can long exist without salt; in the stomach it operates favorably, and has a healthy action on the liver. It also prevents the food from running into fermentation, and is death on intestinal parasites.

White Clover for Brood Mares.

N. J. COLMAN, ESQ.—*Dear Sir:* In one of your back numbers a correspondent tries to establish the fact, that white clover is deleterious for brood mares, and prevents conception if mares are pastured on it before the time of service or during spring.

I think I have data which will successfully dispel such a delusion, and I think there must have been some other cause for the gentlemen's mares not getting with foal. Of late our old pasture lots and the highways are becoming more and more seeded with white clover. A lot of mine used for six or eight years for pasture, although originally seeded with red clover and herd's-grass, and along the water-course filled with native grass, is now almost entirely covered with white clover. This lot is in constant use for my brood mares, four of which I work, but, whenever not in harness, they run in this pasture. Three years ago I had all my mares (six) with foal, and raised six colts; two years ago all but one were with foal, and I raised all the colts but one, which died of exposure early in the spring while I was away from home and unable to get back on account of the mare's condition.

Last year I again put six mares, and raised five colts, one being injured by young horses loose in the stable (inadvertently left in by a new hand) before it was twenty-four hours old.

The same number of mares are again with foal, I have no doubt.

Here, then, we have four seasons, wherein six mares have bred without hardly an instance of a second service of the horse, and only one failure of a mare getting with foal. Perhaps I ought to add, that I own a stallion, and that he never, with my knowledge, served more than one mare in a day during the season, with perhaps a single exception.

One thing more about white clover. Although esteemed in the East as first-rate pasture for kine, we find it almost impossible to make good butter while our cows are confined to such pasture, and I have heard the same complaint from others also. It was first brought to our notice by some Maryland farmers now settled in Ogle, who say that they never can make good butter during the white clover season.

Horses feeding on white clover (the second

growth) are always sure to have unusual discharges of water from the mouth (slabbers).—Oats fed in the sheaf, and a mess of wheat bran occasionally fed dry, have a tendency to check this.

Crops in the greater portion of Ogle county are poor, and what we do have is much injured by frequent and hard rains, accompanied by strong gales. Very little small grain has been threshed as yet, and the turn out is even poorer than anticipated. OLD FIRKIN.

Oregon, Ill., Sep. 6, 1862.

SHEEP ON WHEAT FARMS.

ED. VALLEY FARMER: After reading the article in the May number of the *Valley Farmer*—"Sheep on Wheat Farms," by Gen. Harmon, of New York, the question arises with me, What is to be done with all the straw of the fifty acres of grain, as there is to be no stock kept except for the use of the family? How is the straw to be consumed, and what is to be the management of the sheep during the winter months? And being a new comer to Illinois, I would like to ask through the columns of the *Valley Farmer*:

1. What kind of sheep are best adapted to Southern Illinois, with a view of raising lambs for the St. Louis market, as well as wool and mutton?

2. Is it best to keep the same sheep on for several years, or change the flock each year by fattening and selling off?

3. How many can be kept together with safety in yards with shelters?

4. What kind of grass is the best for pasture?

If you, or some one, would give me some light on the above, I should feel greatly obliged. E. H.

Highland, Madison Co., Ill.

[Will some of our sheep-men reply to these queries.]—*Ed. V. F.*

CLEANING MILK VESSELS.—A correspondent of the *Cincinnati Gazette* truly says, there is no product of the farm that presents so much difference as butter. This arises chiefly from using vessels for holding the milk and utensils in making the butter, which are soured. In my notice of the effects of having soured troughs in sugar making, I stated that acidity was fatal to good sugar making. It is not less so in butter making. Milk has a peculiar acid very easily formed, which entirely takes away that rich, sweet, fine flavor, belonging to good butter. A very little soured milk or cream on vessels, rapidly generates enough acid to take it away. To avoid this, great care is requisite. Cleanliness only is not sufficient in having the vessels well washed, but they must be carefully washed in boiling hot water, and should be boiled in it also. But as the cream is very apt to stick even in good washing, when the vessels are boiled in water some pearlash or soda should be put in it, which destroys any acidity that may be about the vessels. They should then be well sunned. I have known some good butter makers who dispensed with the sunning when soda was used, but both are to be commended.

TREATMENT OF HORSES' FEET.—Mr. Gamgee, Senior, in the Edinburgh *Veterinary Review* for August, says: "The day will, I believe, soon come when people will not allow cutting instruments to touch the soles of their horses' feet. I have said in former papers that the wall, sole and frog are so constructed that they mutually co-operate, and that the intermediate horn, which I have shown is secreted between the wall and sole at their union, is also required to be left entire; but, by the prevailing custom of cutting the hoof, these substances, which in their nature are rebounding springs, are destroyed or greatly impaired. The custom of thinning the sole, and likewise of keeping that part always in cow dung, or other wet soddening material, under the name of "stoppings," was brought much into vogue after the establishment of our first veterinary schools."

QUINSY IN HOGS.

A correspondent of the *American Stock Journal* writes thus concerning a disease somewhat prevalent among swine in the West:

In your last issue, you published an account of a disease prevailing among hogs in Iowa and Illinois, called quinsy. From the description given of the disease, it is what we call the sore throat. The best remedy is to open the pores or holes on the inside of the fore legs, by rubbing them with something rough, or take the point of a pocket-knife blade and open the hole, then rub them so as to roughen the skin; grease well with lard. The above will generally cure them, but if the case is a bad one, after you have rubbed as above directed, put a large seton above the knee, on each leg. I have tried experiments on several cases and it has never failed.

The cause of the quinsy is corn-feeding. A hog fed on oats will never be troubled with the disease mentioned in your journal. Small quantities of gunpowder given to hogs frequently, will I believe, prevent it. But my advice to all persons breeding pigs, is, never to feed old sows which are breeding stock or pigs, any corn, as corn will kill a large hog when fed too much. Hogs in this section of the country always thrive better, and grow larger, when fed on oats than when fed on corn.

Ox Teams and Horse Teams.

The *Massachusetts Plowman* has been making a comparative estimate of the value of horses and oxen. We extract as follows:

It is generally agreed that horses travel faster than oxen, and that on a farm consisting of plains and destitute of rocks, a pair of horses will do more on the plow and harrow than a pair of oxen. Horses will wear longer than oxen; that is, farm horses will last to work till twenty years old, but oxen should not be kept half so long, though some work till they are fourteen. But after admitting so much, we may be allowed to say a word or two in favor of the practice of keeping oxen.

And first, as to the cost of the animals. Oxen of equal weight with the horses are bought for one half price. Oxen are worth something after they are worn out in work—horses are not.

Oxen are not half so liable to disease as horses are. An insurer will ask fourfold more for insuring the health of horses than of oxen.

The gearing for oxen costs less by half than that of horses. A wooden yoke lasts longer than leather harness, and it is put on and off in half the time.

One chain answers for two oxen, but two horses must have four. Oxen are more patient than horses, and will carry a more even yoke. They start a load better than horses, particularly in a snow path, where the runners stick to the snow.

Oxen can be intrusted with hired men at less risk than horses. They are soon taught to draw the plow, and are driven by the plowman without any reins.

We have not a large proportion of farms without rocks and stumps, and where the land is rocky there is no comparison between oxen and horses.

In regard to cost of keeping, there would be but little difference if both were kept on the same food. But many of our farmers keep oxen through the winter on coarse hay, straw and husks, which would not keep horses alive.

Our own oxen (half blood Devon) never have any but cheap hay, husks, &c, through the winter, though they labor much of the time. When April comes they are kept on good hay, and thus they learn the difference between cheap and costly living. Oxen of the right breed are very readily fattened, and their beef is better than that of cows or young cattle, and brings more in the market.

When farmers quit raising and keeping oxen, people must quit eating beef and tanning ox hides.

THE TAX ON DOGS.

In view of the fact that the Tax Bill before Congress imposes an annual tax of one dollar a head on dogs, a Missouri paper remarks:

One dog to each family in the United States would be a very moderate computation. This would give us in round numbers probably 8,000,000 dogs, each of which consumes annually food sufficient to raise a pig worth a dollar. The cost, therefore, of feeding the dogs in the United States is $8,000,000, which amount may be considered nearly, if not quite, a dead loss to the nation.

A much more important question to consider, however, is, how many millions of dollars are annually lost by the sheep and other domestic animals killed by dogs. This question cannot be solved until the attention of the census takers or the assessors shall be directed to the matter. Ohio has already made the experiment, and it was found that the loss in that State of sheep killed and injured by dogs in 1861, amounted in value to $96,795 95.

Extensive wool-growers in some portions of the country, who keep choice breeds, have estimated their individual losses by dogs at several thousands of dollars annually, notwithstanding the utmost care to prevent them. The havoc made by a single dog, which has become addicted to sheep-killing, is astonishing; and when two or three such dogs associate for their work, as often happens, one or two visits will be sufficient sometimes to destroy a large flock of sheep.

Still more important injury which the country sustains by dogs, remains to be considered. Thousands of farmers have abandoned raising sheep on account of their destruction by dogs. Others, in nearly all places, are deterred from engaging to any considerable extent in this most important and profitable branch of husbandry for the same reason. Of the great loss which the country sustains in this way there can be no doubt. The number of sheep in many of the older States has been largely decreasing annually. Those States are now waking up to the importance of adopting measures to decrease the number of dogs, and for obtaining a revenue from them to remunerate sheep owners for their losses. Under these circumstances we have become large importers of woolen goods, and even wool. Instead of drawing on factories of our own for a supply of clothing for our immense army, we were obliged to import from Europe.

In the West there is everything to favor, and

nothing except dogs to prevent, producing immense quantities of wool, and producing it very cheaply. We have also every facility for manufacturing it in our midst. Such manufactories would increase our population, and would consume a large proportion of our surplus grain and provisions, which now have to seek distant markets at a loss.

Rearing and Management of Swine.

From a "Prize Essay on Swine," as furnished the *Iowa Homestead*, by Dr. G. Sprague of Butler Co. Iowa, we extract the following paragraphs:

Loss of Young Pigs—There is generally great complaint among farmers about sows casting their pigs, or of pigs dying off during suckling. We have yet had but one sow cast her pigs.—She ate on the day of the accident freely of raw potatoes. The chill to the system from such cold, watery food, may have been the cause. Young pigs coming too early in the season, are very liable to die from becoming chilled. This can only be prevented by furnishing very warm quarters, or by keeping the sows from the male till nearly mid-winter. Some farmers always have good luck with pigs and other stock. This luck, so called, is the reward of vigilance. Let the unlucky pattern after such, and we will hear less complaint.

Winter Shelter—The greater portion of the pigs throughout the country are confined in open rail pens, without bedding, while the straw stack is rotting near by. This is a severe punishment to the swine—involves an unnecessary consumption of food, and altogether furnishes a sad commentary upon swine breeding and growing as generally practiced. Some farmers excuse this want of care by saying that the swine are liable to mange if freely bedded. The excuse is without a single fact to sustain it, as we firmly believe. We have used both prairie hay and straw for bedding tender-skinned pigs, and the more they get of either, the cleaner and warmer they will be.

Fattening Swine—Early pigs, intended for killing the first winter, can only be fitted for this by liberal feeding on appropriate feed from weaning time. Cooked food is highly advantageous, and it will pay to cook food for swine for early killing, as you thereby insure a more rapid growth, rendering young swine of marketable weight at nine or ten months. Oats, cut with the scythe daily, as soon as in milk, will cause swine to grow and fatten rapidly.—They will not waste the grain, but save all that is fed to them, if in moderation. The high value of oats for swine is not generally appreciated by farmers. Ground and cooked food for swine affords a material saving over feeding grain in the raw state. Where grain is expensive and labor not too much of an object, this plan of feeding should be always followed. But in the West where corn is only worth twelve or fifteen cents per bushel, and other food in proportion, the question is then one of convenience. If the farmer, or his sons, or hired help, has any time to idle away, let him by all means devote a portion of this time to cooking food for his swine. Under such circumstances, there need be no question in his mind as to its being a paying operation to cook food for swine.

Value of Shelter for Sheep.

Wm. H. Ladd, one of the best farmers of the State of Ohio, who has given especial attention to sheep, gives the following careful estimate, in the *Ohio Farmer*, of the value of shelter to sheep, suggested by the remark of a neighbor, that "it won't pay to build shelter for sheep." This neighbor kept 1,000 head, and lost many animals, and it is from his losses that a part of this estimate is made.

Let me make some very low estimates in reference to the loss occasioned by this treatment in thirty years:

First, if the sheep sheared two pounds of wool per head under this treatment, they would have shorn three pounds had they received good care.

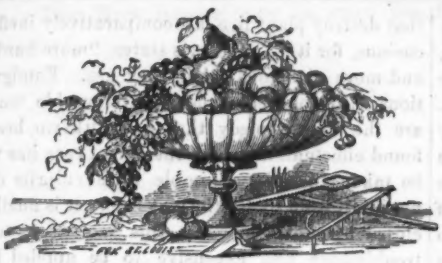
Second, one pound difference per head on 1,000 sheep makes 1,000 pounds; 1,000 pounds in thirty years, at forty cents per pound, $12,000. It is a very low estimate, counting sheep at the lowest common price, that a flock of 1,000 sheep should yield $500 worth of surplus stock to sell each year; this in thirty years amounts to $15,000. Feed saved by shelter, say $200 each year, worth in thirty years $6,000; simple interest at 6 per cent. on amount saved in thirty years, $30,690; difference of the value of stock on hand at the end of thirty years, $1,000; value of shelters to the proprietor at the close of thirty years, $1,000; amount saved, $65,690.

Per Contra—shelters cost, say, $3,000; additional grain fed, say $400 each year, in thirty years $12,000; interest as above, $16,560; for keeping shelters in repair, $1,000—total, $32,560.

Difference in favor of shelters and good care, $33,130.

Don't look at this as a fancy sketch; it is a reality, and the only incorrectness about it is, that the estimated difference in favor of good keeping is in every particular below the reality.

To Cure Cracks on Cows' Teats.—After milking rub molasses on the teats, and in the cracks. Apply it for two or three days, and your cows' teats will be sound.



HORTICULTURAL.

The Three-banded Tree-hopper.

A NEW FOE OF THE GRAPE VINE.

Ed. Valley Farmer: The insects of which I have just received many specimens from you, both in the perfect and in the pupa state, with an account of their destroying the grape vines of one of your correspondents, are the *Erythroneura tricincta* of Fitch, or, in English, the *Three-banded Tree-hopper*. They are, when full grown, from 1-10th to 1-8th of an inch long, of a pale, semi-transparent yellow color, with three dark bands as shewn (considerably magnified) in Figures I and II: the first, deep black; the

Fig.I. *Fig.II* *Fig.III* *Fig.IV*

second, pale reddish-brown, tipped on each side with black; the third, entirely pale reddish-brown. In the pupa state, when the wings are imperfectly developed, they have only four smaller brown spots, as shown in Fig. III. The peculiar veining of the froul wings, which characterizes the genus *Erythroneura* of Fitch, but which is here only visible on holding the wing up to the light, is exhibited in Fig. IV.

These insects belong to the order Homoptera, characterized by being suckers not biters in all their three states, and by having four (more or less) glassy wings, folded roof-fashion, not horizontally, as in Heteroptera. To Homoptera belong, also, the *Cicada* family, (popularly known as locusts in America, though the true locusts of Scripture and of modern times are what are called grasshoppers in this country,) the *Aphis* family (plant-lice), and the *Coccus* family (bark-lice and mealy-bugs). The order Homoptera, as well as the order Lepidoptera, (butterflies, and moths or millers,) is remarkable for containing not a single cannibal or parasitic species, and is therefore more peculiarly obnoxious to the horticulturist, the fruit-grower and the farmer. The Lepidoptera are, in the perfect state, suckers, but in the imperfect or caterpillar state biters; the Homoptera on the contrary, are suckers in all their three states, and hence we see at once why our locusts can have nothing to do with the locusts that ate up King Pharaoh. For these last, as we read in Scripture, "devoured every green thing throughout the land of Egypt," whereas our American locusts (properly called *Cicadas*) are physically incapable of devouring, seeing that they have no jaws to devour with.

The *Tettigonia* family, to which these Three-banded Tree-hoppers belong, is very numerous in species, Dr. Fitch having in 1851 enumerated 46 as found in the State of New York, and having since described several others. My private cabinet contains over 100 species, all found in the State of Illinois, and many of them undescribed. In the genus *Erythroneura* alone, to which our insects appertain, I have no less than four described and fourteen undescribed species; all elegantly marked with red or reddish-brown spots and stripes. It is a pity that insects which are so mischievous should be so beautiful—but we sometimes have to deplore the same calamity amongst the ladies.

A very similar species of *Erythroneura* was described long ago by Dr. Harris as infesting the grape vines in the Eastern States, and named by him *Tettigonia* (*Erythroneura*) *Vitis*, or the Grape-vine Tree-hopper. Dr. Fitch met with our Three-banded Tree-hopper in abundance upon raspberry and currant bushes, and occasionally upon grape vines, in the State of New York; but not in such numbers as to do material damage. The true Grape-vine Tree-hopper of Harris does not occur, so far as I am aware, in the Valley of the Mississippi. A colored figure of this last species will be found in the magnificent illustrated edition of Harris's Work on Injurious Insects, recently published by the State of Massachusetts (Plate III, Fig. 5). The Three-banded Tree-hopper is quite common near Rock Island.

There appears to be something poisonous or peculiarly unfriendly to vegetable life in the puncture of the beak of most species of the *Tettigonia* family. Wherever the beak penetrates, there the life of the foliage seems to be destroyed. I have a strong suspicion that what is popularly known as the fire-blight in pear trees is caused by the puncture of the beak of a greenish species of this family, not much larger than our insect. The grape vine leaves, which you

sent me to-day along with the Tree-hoppers are speckled all over with irregular brown spots, showing that at least one-half of their surface is dead. On the contrary the beak of an *Aphis*, or plant-louse exhausts the sap and thereby weakens the leaf, but never, so far as I have observed, causes the leaf to turn brown in the particular spot where it penetrates. The tips of the young shoots of the grape vines belonging to your correspondent are infested by the *Plant Louse of the grape vine* (*Aphis Vitis*—Fitch—which I have myself met with also in Central Illinois), as appears from a young leaf separately wrapped up by him. But although that leaf was only one inch across, and was covered by over a hundred plant lice sucking away at its sap, it is perfectly green still.

As Dr. Harris's species is so closely allied to ours, that Dr. Fitch even questions whether they may not be mere varieties of one and the same species; it will perhaps be as well to quote what Dr. Harris says of its habits. I have little doubt but every word of what he says will apply equally well to our insect, allowing for the difference of seasons in Massachusetts and Missouri.

"The vine-hoppers inhabit the foreign and the native grape vines, on the under surface of the leaves of which they may be found during the greater part of the summer, for they pass through all their changes on the vines. They make their first appearance on the leaves in June, when they are very small and not provided with wings, being then in the larva state. During most of the time they remain perfectly quiet, with their beaks thrust into the leaves, from which they derive their nourishment by suction. If disturbed, however, they leap from one leaf to another with great agility. * * When arrived at maturity, which generally occurs during the month of August, they are still more agile than before, making use of their delicate wings as well as their legs in their motions from place to place; and when the leaves are agitated they leap and fly from them in swarms, but soon alight and begin again their destructive operations. The infested leaves at length become yellow, sickly and prematurely dry, and give to the vine at midsummer the aspect it naturally assumes on the approach of winter. * * If the evil be allowed to go on unchecked, in a few years the vines become exhausted, borren and worthless. * * It is stated by the late Mr. Fessenden in the *New England Gardener*, that some persons in this country have entirely abandoned their grape vines in consequence of the depredations of this insect." (Harr. Inj. Ins. p. 227.)

Now for the all-important practical question: What is the remedy for this little pest? You cannot profitably hand-pick it, for it is as nimble as a flea. The soapy and alkaline washes that destroy plant lice, are comparatively inefficacious, for it is, as Harris states, "more hardy and more vivacious" than they are. Fumigations with tobacco, beneath a moveable tent, are the only remedy that has hitherto been found effectual, and even then great care has to be taken that these nimble little culprits do not jump from under the tent before it is finally closed upon them. But this remedy is too troublesome and expensive to be applied in large vineyards.

I believe myself that the best practical remedy will eventually be found in either breeding or collecting great numbers of some cannibal insect that makes the Tree-hoppers its peculiar prey, and scattering them broad-cast over the infected vines. On the same principle the French and German gardeners employ aphis-devouring insects (*Coccinellidæ* and *Hemerobiidæ*) to get rid of their aphides or plant-lice. Several species of cannibal bugs (*reduvius*) occur abundantly on our forest trees in all parts of Illinois, and, as I have reason to believe, keep the Tree-hoppers that infest them, within reasonable limits. In the forests Nature has undisputed sway, and there her grand operations are not generally interfered with by man. In the garden and the orchard, on the other hand, man is continually interfering with Nature by the use of the spade, the hoe, and the pruning knife; and no doubt often, unintentionally, destroys the eggs or the young larvæ of cannibal insects placed there by Nature for his especial benefit. It thus sometimes becomes necessary to assist Nature, when we have unwittingly thwarted her. Whether the plan I have indicated could, in this particular case, be carried into practical effect, can only be determined by a long series of carefully-conducted experiments. At present it is nobody's business out West to make such experiments on our peculiar noxious insects—and, as we all know, what is nobody's business, is never done at all.

I have only to add in conclusion, that accompanying the numerous specimens of the Three-banded Tree-hopper, sent by your correspondent, were two or three specimens of a small, brownish Tree-hopper of about the same size, all in the larva state. As there were no winged individuals of these last, and as the larvæ sent are sadly distorted and compressed by not having been inclosed in a suitable paste-board box, it is impossible to determine the species or even the genus to which they belong. No doubt, to the extent of their numbers they were detrimental to the grape vines, but I strongly suspect that the Three-banded Tree-hoppers were the principal culprits. Benj. D. Walsh.

Rock Island, Aug. 19, '62.

The New Rochelle or Lawton Blackberry.

We consider it our duty to say a good word for this fruit. It certainly has surpassed our expectations. We have seen it in bearing in a number of places the past summer. The yield has not only been enormous, but the fruit has been very large and luscious. If the berries are left on the canes till they are thoroughly ripe, so that they part with a mere touch from the stem, they are sweet and equal in quality to any fruit with which we are acquainted.

The New Rochelle Blackberry should be raised by everybody. The fruit is exceedingly healthful. The canes require but little attention, as they will, after being established, take care of themselves, with a little pruning, which can be done with a corn-knife in the summer, when the canes get too high or sprangling. It is also one of the most profitable fruits for market, as its yield is immense, and it commands in St. Louis a high price.

Many persons think that the common blackberry of the woods is equally good, and that if planted and cared for in the same way as the New Rochelle, it would be just as good. But this is a great mistake. We have tried the common wild blackberry in this way, have succeeded in getting a splendid growth of cane, but little fruit.

The best season for planting the blackberry is in the fall. The roots commence to sprout very early in spring, and if removed at this time they are less likely to live. They should be planted in rows eight or ten feet apart, and about four feet apart in the row.

THE APPLE TREE BORER.

Ed. Valley Farmer: I see a writer in your July number mentions that he has to cut out the borer from his apple trees. If he will keep them clean they will never get in. You never see the worms in an apple tree growing in a farmer's door-yard, where the ground is tramped until it is bare earth. And why? Because the bark is exposed to the sun and is too hard for the perfect or winged insect to bore in and lay its eggs; but if you let the grass and weeds grow around the trunk of the tree, it becomes tender and they will be sure to get in.

I have an old orchard of grafted apple trees that is now in Timothy grass, and there is not a borer in it. And why? Because I hoe around every tree, making a space three feet across quite clean of grass, weeds or sprouts; and keep it so by hoeing every time the weeds and sprouts grow.

This is a small thing to do; a man can clean one hundred trees in three hours. If your readers will not do this, let them scrape the dirt from the root of the tree some two or three inches deep, and paint them around for five or six inches up the stem with tar and flour of sulphur melted together and put on warm. If too stiff to work well, add soft soap sufficient. The worms will not get in that year, if it is done in the spring.

If the worms have been allowed to grow large and bore into the heart of the tree, it is no use trying to kill them with a wire, for if you kill them you do not know whether you have succeeded or not. Stop the hole up with gum camphor, and seal it up with beeswax; or, what is better, grafting wax, and you may be sure you have killed him; for no insect can live and breathe the fumes of camphor.

The above hints are not theory, but practice. I have practiced them for 30 years, and have never failed, and all my neighbors that have taken my advice have always succeeded in keeping their orchards free from the borer.

B. F. Dunkley.

N. B.—If any of your readers know of a cure for the sap blight in pear trees, I would thank them if they would publish it in your valuable journal; for I am perfectly headed, and cannot find anything that does any good. B.F.D.

Dunksburg, Pettis Co. Mo.

Propagation of Herbaceous Perennia

There are several ways of propagating perennial, hardy herbaceous plants—viz., by dividing the roots, which is the most common, by suckers, by seed, by cuttings of the flower stems, by root-cuttings, and by piping. The names of the different modes almost indicate sufficiently the way they should be done; however, it may be advisable to briefly describe each.

By Dividing the Root or Plant.—Take up, just after flowering, any plant that will increase by this method, and divide it with a strong knife into good-sized sections. Take away the old soil and replace it with fresh of the same kind; then plant a strong section in its place, and the rest in a nursery-bed, either to supply deficiencies, or to exchange with some other cultivator.

By Suckers.—Such species as throw up suckers may be increased very easily, without disturbing the parent plant. Bare the sucker a little way down till roots are perceived, and then cut it off below these roots, and immediately plant the suckers in a shady border for a

year, when they may be transplanted into the place where they are to bloom.

By Seed.—Some species do not propagate easily by the ordinary methods; hence it is necessary to allow a stem or two to produce seed, where increase is desirable. If the seed ripens by the middle of July it may be sown immediately in the same kind of soil as the parent plant delights in. The seedlings may remain in the seed-bed till spring, and may then be planted out in nursery lines for a season, and afterwards transplanted to their final home; others that do not ripen their seed till later, should have the seed gathered, dried and kept till March and April, and then sown in beds, and when strong enough, planted out and transplanted as directed above for such as are sown in the same year.

By Cuttings of the Flower Stems.—When this mode is adopted (and it is applicable to such plants as double Scarlet Lychnis, double Rockets of sorts, and others), it is better to sacrifice one or more heads of flowers just as they are coming into bloom. Such stems have fresh leaves on them; cut them into pieces about two inches long, divest them of their lower leaves, and then prick them out in sand, and place a hand-glass over them, shading from hot sun; they root readily, and form a plant out of the top joint of the cutting. Such plants require planting out in the reserve garden for a season, and to be prevented from flowering, in order to make strong blooming plants for the border the second year.

By Root Cuttings.—The common Mint affords an example of this mode of propagation. Such plants send forth underground runners, and these runners are full of eyes which, when the stolons or creeping roots are cut into lengths, start up shoots which quickly make excellent plants. This mode may be done at almost any time of the year, but the best time is about the end of May, because then the young plants become well established before winter. Plant the cuttings out in rows in the reserve garden, and transplant them where they are to bloom the spring following.

By Pipings.—This way is used for plants that have jointed stems, of which the pink furnishes us with an example. This mode is well known to florists, and is performed thus: With a sharp knife cut off as many pipings as may be required, dress off all the lower leaves, leaving four or five at the top. Let these be left entire, and then plant in sand, under a hand-light behind a shady wall until they begin to grow: then lift off the hand-light, and when they are sufficiently rooted plant them out in a nursery bed for a year, allowing no flowers to be produced; they will then form good plants to transplant where they are to bloom.—[*Cottage Gardener.*

GRAPE GROWERS' MAXIMS.

We find a few good items under the above heading in the *New Jersey Herald.*

1. Prepare ground in the fall, plant in the spring.

2. Give the vine plenty of manure, old and and well decomposed; for fresh manure excites growth, but does not mature it.

3. Luxuriant growth does not always insure fruit.

4. Dig deep, but plant shallow.

5. Young vines produce beautiful fruit, but old vines produce the richest.

6. Prune in the autumn to promote growth, but in the spring to insure fruitfulness.

7. Plant your vines before you put up trellises.

8. Vines, like soldiers, should have good arms.

9. Prune spurs to one well developed bud, for the nearer the old wood the higher flavored the fruit.

10. Those who prune long must soon climb.

11. Vine leaves love the sun; the fruit, the shade.

12. Every leaf has a bud at its base, and either a bunch of fruit or a tendril opposite to it.

13. A tendril is an abortive fruit bunch; a bunch of fruit a productive tendril.

14. A bunch of grapes without a healthy leaf opposite, is like a ship at sea without a rudder—it can't come into port.

15. Laterals* are like some politicians; if not often checked they are the worst of thieves.

16. Good grapes are like gold; no one has enough.

17. The earliest grape will keep the longest; for that which is fully matured is easily preserved.

18. Grape eaters are long livers.

19. He who buys the new and untried varieties should remember that the seller's motto is *Cave-at emptor*—Let the buyer look out for himself.

* Laterals are shoots which start from either side of the main bud, at the axil of every leaf. If they grow unchecked they destroy its vigor; if entirely removed, the bud itself shoots prematurely.

Men's lives should be like the day, more beautiful in the evening; or, like the summer, aglow with promise; and the autumn, rich with the golden sheaves where good works and deeds have ripened on the field.

KEEPING GRAPES.—The *Gardener's Chronicle* states that Mr. Thomson, of Dalkeith, adopted the following method of keeping grapes, with great success: In cutting the grapes he left the bunches attached to the branches that bore them; sharpened the points of the branches where they had been detached from the parent stem, and ran them a couple of inches into mangel wurtzel roots. They were laid on the shelf of the fruit room, and the grapes allowed to hang over the shelf, where they could be cut as required. They kept perfectly plump till the last bunch was consumed.

HINTS ABOUT THE DAHLIA.—The dahlia is our favorite flower, and it must from its many desirable qualities always be popular, if, at present, it is a little out of favor. Some in our yard, are now—Aug. 1st—in full perfection of bloom, and are truly magnificent. Any garden soil will grow this flower, but we prefer a compost made of old black garden mold, clay and sandy peaty loam. In wintering the dahlia, take up the tubers as soon as the tops are killed by the frost, do not separate them, but pack them away in a box of dry sand or loam, placing them in a dry cellar out of the way of frost, till wanted for propagation in the spring. This flower is particularly worthy of culture on account of its cheapness, the ease with which it is grown, and the rich display it makes in the garden when the other flowers are gone.

[Reported for the Valley Farmer.]

Meramec Horticultural Society.

EUREKA, Sep. 4, 1862.

The forty-fifth monthly meeting was held in the house of Mr. L. D. Votaw. The President in the chair.

The minutes of the former meeting were read and approved.

One new member was admitted.

A communication was read from the Secretary of the Illinois Horticultural Society, inviting a delegation to attend their Exhibition at Chicago, on the 8th of September and following days, whereupon the following motion was adopted, That Wm. Muir, P. M. Brown, and Dr. J. B. H. Beale, be hereby appointed a delegation to represent this Society at the Exhibition of the Illinois State Horticultural Society on the 8th of September and following days, and that John S. Seymour, Dr. A. W. McPherson and the President be a committee to collect and arrange samples of fruit, &c., and funds to carry out the objects of the motion.

It was on motion, RESOLVED, That in consequence of the disturbed condition of affairs, and the fact that the great bulk of the male population is called out to military duty, we regret being placed under the necessity of giving up our annual Exhibition for the present year.

The Fruit Committee reports a respectable show of fruit on the table to-day. The show of Grapes is good.

Mr. J. S. Seymour exhibits Concord, Diana and Isabella; certainly very fine; the bunches of Diana are the largest we have ever seen, weighing over eleven ounces, the berries being large and perfect; the Concord also remarkably fine, and the Isabella among the finest ever exhibited before the Society.

Mr. T. R. Allen has the Clinton and Isabella, fair.

Mrs. J. C. Blakey shows us the Clinton and the Catawba; the bunches of the latter very large, but severely thinned by disease.

Mr. Wm. Harris and L. D. Votaw both exhibit Catawba but little thinned by rot.

Dr. McPherson has the Diana perfect and ripe.

Mrs. J. C. Blakey takes the lead in Pears—the Bartlett extra fine; Van Mons Leon Le Clerc, fine; Louise Bonne De Jersey, not quite ripe; and the Seckel in perfection. She also shews two varieties of very fine plums—the Yellow Egg, the other a large purple plum with gray spots, looking very fine but rather inferior in quality.

The show of Apples was good. Mrs. Blakey has Pryor's Red, not quite ripe. Mr. Votaw six varieties of seedlings and Rambo. Mr. Muir, Spice Sweeting and Keswick Codlin. Mr. P. M. Brown, Rhode Island Greening, Rambo, Fall Queen, Fall Pippin, Ortley and Golden Russett. Mr. Harris, Fall Pippin, Ortley and Rambo. Mr. Allen, Pryor's Red of last year's growth, still looking plump and fine, but quite soft. The same of the present year. Fall Pippin, Pennsylvania Red Streak, Rambo, and one variety unknown. Mr. Goss has seven varieties supposed to be seedling and Pottinger.

Mr. Harris has Monstrous Cling and Late Admirable Peaches. Mr. Votaw several varieties unknown.

A. W. MCPHERSON, Ch.

The Flower Committee report a fine boquet by Mrs. Seymour, composed of a very large number of the finest gems of Flora in fine condition, which is the more remarkable as the season has been so very dry of late.

WM. MUIR, Ch.

The Vegetable Committee reports fine samples of Sweet Potato by Mrs. Blakey, and of the Perfecta Tomato by Wm. Muir.

JAS. SHIELDS, Ch.

Considerable conversation was had upon Grape Culture, in the course of which Mr. Seymour stated that he had gathered 500 lbs. of fruit from 30 Concord vines planted 4 years, and still having a strong wood growth.

Dr. McPherson has had his Diana do exceedingly well this season.

The Secretary stated the result of a visit to Mr. Braches' orchard and vineyard, and found the grapes suffering from a late gray rot—the same was destroying the grapes in his more immediate neighborhood. Mr. B.'s Dwarf Pear Trees had suffered most excessively from the blight, many of his finest trees being destroyed.

Mrs. Blakey, in answer to an inquiry, had also to lament its devastating effects in her dwarf pear orchard.

Mr. Vaughan had observed it but little.

Dr. McPherson's dwarf pears had made a large wood growth, but had given but little fruit.

A discussion was had on the Late Summer and Fall Cultivation of the Grape and Pear, and it was generally conceded to be dangerous.

The President announced the next meeting to be held at the house of Mr. W. Harris on the first Thursday of October. On motion the meeting adjourned.

WILLIAM MUIR, Sec.

THE PROFITS OF FRUIT GROWING.—There is no question but fruit growing has been a source of great profit to farmers of Western New York within the last fifteen years, and, strange as it may seem, the business improves as the number of growers increases.

An instance of the advantage of fruit growing is related by the Orleans *American*. A lady in the town of Gaines bought, eight years ago, eight acres of old, worn-out land, at less than $40 per acre; cropped it two years, then in November (six years last November) set it out to orchard at an expense of less than $200, over and above expenses. She recently declined an offer of $2,500 for the field—will not sell for less than $3,000. There is no building or other improvement on the land except those mentioned. —[*Rochester Union and Adv.*

[Written for the Valley Farmer.]

The Mo. State Horticultural Society.

[Proceedings continued from Sep. No.]

GATHERING AND PRESERVING APPLES.

Dr. Claggett—There is much difference of opinion upon this point. Some claim that if apples are gathered in the light of the moon the bruises dry up; while if gathered in the dark of the moon, the bruises rot We have in this and many other cases paid no attention to the moon, and can only set these questions at rest by experience.

Mr. N. J .Colman—I am glad the Doctor has brought up this subject, Mr. Flagg has had 20 to 25 years experience in this. I think that apples are more influenced by their condition on gathering, by having them put up in piles to sweat, and put in good apple rooms or out-houses till there is danger from frost; then put them in bins in the cellar. If picked in barrels from the tree, holes should be made in the barrels, and the barrels should be placed where the air can have free access to them. They then undergo what is termed the sweating process before they are put away for the winter.

Mr. Flagg—I would not wish to throw any discredit upon the moon, but I think that thick-skinned fruit dry up their bruises and thin-skinned ones rot. I have had a good deal of experience in gathering apples for market purposes. I have not always been able to do what is best. I gather into baskets by boys in the trees and men with round ladders; lay them down in piles under the trees upon straw, cover them with straw and let them remain for a few weeks. We then pack them into barrels, keep the small or imperfect fruit seperate, fill the barrel rather full, push the head in with a lever very tight, and they bear transportation very well. Take out the bottom of the barrel, and lay a layer of the finest apples, and then fill in and put in the bottom: they are of course opened at the head. They should be kept out of the cellar as long as possible; keep them from the light and air; this is particularly the case with the Pryor's Red; keep them in the dark, and they keep till far in the winter; make no holes for ventilation. I have found they keep very well in lime barrels. I don't think they sweat; it is the change of temperature that deposits the moisture.

Mr. N. J. Colman—I think that it is in the shrinking of the fruit that the moisture is thrown out.

Mr. Flagg—If apples are taken out of the cellar in the early spring into a warm room they will soon have a damp upon them.

Dr. Edwards—Is there anything like an exhalation through the skin in the growing state? Does the moisture pass through the skin or the stem?

Dr. Claggett—As the apple received its moisture through the stem it might REPASS through it.

Secretary—Have seen fine fruit from France sealed up with WAX at the point of the stem to prevent shrinking.

Mr. Mason has seen this in grapes, and it may be the case with the apple.

Mr. Redfield—I have heard the same in regard to the pear.

Mr. Smith—By changing the temperature of the apple you may wipe off more moisture than the entire weight of the apple without sensibly diminishing the weight of the apple itself.

THE PLANTING AND MANAGEMENT OF YOUNG TREES IN THE ORCHARD.

Mr. Pettingill—My experience in orchard trees is not so extensive as many others here. My first object in planting a tree is to be sure my ground is in proper condition. My soil is prairie, with a heavy sub-soil. I set off my row of trees with the plow, throw a dead furrow, and plow a strip perhaps six feet wide, running twice in the same furrow with a heavy plow so as to leave about 20 inches of loose soil, and by two plowings I pulverize the soil completely. I generally cultivate one crop on the soil; my soil is light. My next object is to have the right kind of trees. I raise my own trees, with the exception of 25, planted in 1840. Am very careful to get out plenty of the root, and set the collar about 4 inches below the surface. The after culture is plowing TO and FROM the trees. I train the head about one foot from the ground; formerly I trained so as to drive a team under them, but nine-tenths of these are dead, and are decayed on the south-east side; these heads were started at 4 or 5 feet high.

In peaches I take the boot-leg style, with a hollow centre, so that you can stand in the centre and gather the fruit. In forming the head I cut off the main stem at about 3 feet in 2 year old trees. I don't make any distinction in the habit of growth, it is so much easier to trim up than down. Never have shortened in the apple, but always shorten in the peach one-third to one-half of the young growth. In April I take 1 pound of sal-soda to 2 gallons of water and wash the trees with a large swab. Washing up into the limbs gives them a clean appearance and smooth bark. I have sometimes used soft soap. We are troubled with the borer in the body of the tree. Where I washed late in the season I would find a small spot in the bark, and taking my knife and cutting it out found a young borer, but dead. When the trees are well washed, I find little trouble from insects. Three-year old trees I always wash, and recommend all my customers to wash them in a month after they are set out; and when this is done they seldom fail. This washing destroys the eggs of the insects. Would plant out in the fall; peaches will do well set out in the spring. I have tried to transplant in the spring trees budded in the fall. Cut them to within 4 or 6 inches of the bud; they generally did well. Peach trees should be headed back severely in transplanting. The trees are not so apt to break off or split when cut boot-leg high. I saw the best peaches I have seen this season picked the 12th of July by Mr. Newhall; a seedling from a seed brought from New Hampshire; it is a week to ten days earlier than the earliest peach on his place; a fine red peach, bears very full, from 3 trees took 4 bushels when about the size of hazel nuts. It is hardy, stood the winter when the others were killed; is as large as Troth's Early.

I prune apple trees in June, peach trees before the buds begin to swell; do but little pruning to the peach tree but cutting back. My only rule in pruning the apple is to cut when the sap flows freely. I sometimes cut the trees in the nursery, as I will pass through it in the winter, and always find the cut black and gummy in the summer and hard to heal over. When the sap flows freely it heals very finely.

I like planting corn in the young orchard much better than potatoes; have practiced the corn planting for 20 years. Like the corn from this fact—about the time potatoes are ready to take up it is best to let the land remain at rest to prevent a late growth. Corn shades the ground during the hot season. In planting corn don't bring it up to the trees, but extend the circle from year to year. I would apply ashes twice a year if at all possible. To prevent the rabbits barking the trees, I catch them. My method is simple: I take a box tolerably large, cut a hole on the edge of the box, and fasten inside the hole a piece of tin or sheet iron by a rod on 2 staples, so that when the box is turned on the ground on its mouth the piece of tin hangs from the top on the inside; the tin is kept up by a small piece of stick. When the rabbit enters the tin falls, and the rabbit is left inside. It needs no bait—YOU CAN'T KEEP RABBITS OUT OF A HOLE.

Mr. Hadley—I once pruned the trees when the sap was in full flow, and they did not heal very well. In regard to cutting trees I had a quantity of shrubby timber on my land which it was hard to deaden. I tried to deaden them in the months of June, July and August, and the leaves wilted in 24 hours. I never girdle trees at any other time; never tried to girdle trees in any particular phase of the moon.

Mr. N. J. Colman—A year ago last spring I girdled some trees that stood by my hedge as the leaves were

coming out, and they died and rotted badly. There were some others I wanted to kill and I thought I would girdle them in June or July, and it had no effect upon them; they show no mark of injury. When the sap is thin in the early spring, before it is elaborated in the leaves, is the best time to kill the tree.

Dr. Edwards—If this is the fact how is it about deadening trees in June WHEN THE MOON IS IN THE HEART. In the country they belt the trees before the leaves come out. You must be sure to cut clear through the sap-wood; some kinds will die with a slight belt.

Mr. Hadley—In June you need not cut more than the bark, and the root will rot out quicker than any other way.

Mr. Mudd—There is much difference in seasons; some are much earlier than others, which will make some difference; in the early part of the summer the sap ascends from the roots to the top; in the fall it descends. If you girdle the tree through the alburnum, you cut off the supply of sap to the roots, and they can then never sprout because there is no supply of sap. My first experience in trimming trees was in an old orchard. I cut off large limbs in March, and cemented over with varnish, and they never healed over. I prune in June and July, and the exact time depends in a great measure upon the season, and if we have a long, wet fall they may not heal so well.

Dr. Beale—Has many trees he wants to kill, and some he wants to live; wishes to know from Mr. Pettingill what kind of a plow he uses among the trees.

Mr. Pettingill—I use a common one-horse plow, and as the tree increases in age the radius round the tree becomes extended so as not to disturb the roots. I plant and work the trees rather on a slight ridge so as to turn off the water, and work with the fork round the trees. I plant apples 30 feet apart and peaches 20 feet.

N. J. Colman—I think that it is of importance to cultivators not to cultivate with two-horse plows with double-trees. Use a short single-tree, it need not be more than a foot long, and don't bring up the horse too near the tree to skin it; work the ground from the tree, and don't go too deep.

Mr. Flagg—It is laid down in the books that as the extent of head the tree makes so do the roots extend.

Dr. Edwards—Is there the same need to form low heads in the timber as on the prairies; on the hills as on the low lands?

Mr. Pettingill—As to high and low heads, I was in the orchard of a neighbor of mine 3 to 4 years ago: in passing lately I found many of the trees were gone. Some of the trees had stems 2 ft. others 6 and 7 ft. I asked which trees bore most; he said the low tops bore twice as much as the high tops, and now the high top trees are nearly all gone and the low tops are mostly left.

Dr. Edwards—If the trees are trimmed high, what would you do with them?

Mr. Pettingill—If the trees are trimmed up to 8 or 9 feet, the sun gets into the stem and kills them.

N. J. Colman—Trees should be planted slightly leaning to the South; cut long trees back to a foot or 18 inches from the ground.

Dr. Morse—In my locality I find a great many young trees are killed by the grub of the may beetle as well as the apple-tree-borer proper. The borer deposits its eggs in the ground at the roots of the tree, from the middle to the last of June. Take a trowel and scrape the earth away down to the roots of the the tree; see if there are any borers in the roots and kill them; take a piece of common hard soap and rub it on the tree from the limbs to the root, take the hand and rub it into the bark down to the roots and the borer will not deposit its eggs. I have seen trees injured by the grubs of both insects and have got the grubs in the injured part. I notice in trees from two different nurseries, that there were cracks in the bark from the bark bursting by sudden freezing of the tree while full of sap, and in these places the borer deposites its eggs. It would be a good plan to apply rags or straw to protect the stems while young.

Mr. E. B. Coleman—As to planting young orchards, I would cut back one-half of last year's growth; but this depends much upon how the nurseryman has trained them. I prefer 2 year old trees, if I plant north of Alton and the Missouri river. I would prefer to bury the trees in the fall rather than plant them out. I would cut them back before burying them; plant them out in the early spring and they will make a good start. If a tree is pruned in the winter it may rot at the bark before it heals; if you prune in the summer the sap will ooze out and will weaken and may destroy the tree.

In peach trees, get the smallest; one-year-old trees are the best, or a good bud is as good as a one-year-old tree. Cherries should be worked on the Mahaleb or Morello; the Morello I like best. The Heart and Bigarreau on the Morello bear light crops; bud or graft in the limbs 2 feet from the ground. Plums on the prairies must be on the wild stock; here they will do on the cultivated stock.

Mr. Riehl—I would rather work the plum upon the wild or Chickasaw stock than any other. My father never used any other, and he had no trouble with them. Nurserymen can raise the plum as well as the peach in 18 months. Upon cultivated plum stocks they will never do on the prairies. It makes little difference whether they are budded or grafted. I like to graft on stocks ⅜ of an inch, they take as readily as the apple.

N. J. Colman—It is the duty of any member when he hears any doctrine from a member that is not correct to notice it. I take the ground that the best time to prune is in August; I take it from my own experience and the condition of the sap. There is more woody matter in the sap at that time than at any other season of the year. When the sap is in this thickened condition, there is the matter to heal over the wound quickly. I have here an article from the "Germantown Telegraph," which I will read:

"SUMMER PRUNING APPLE TREES."—It is a pretty well established fact that apple trees—and we should add pear trees—pruned from the middle of July to the middle of August, sustain the operation with much more advantage than if pruned at any other period of the year. If pruned at that time, the wound will heal over and make, what surgeons would say of a properly amputated arm or leg, a handsome stump.

"If the branches be lopped in winter or spring, the stump generally leaves a perpetual scar; and if after the sap has commenced flowing, a bare bone, as it were, projecting from the living parts of the tree, and remaining there until it rots away, when frequently the decay continues on, as a sort of gangrene, into the very heart of the tree, much to its injury. Who has not observed this in his experience?

"We have more than once witnessed the benefits of pruning in midsummer, and have always been impressed with the advantages over the system generally pursued. On one or two occasions, some years ago, we adverted to the fact, and now again call attention to it, especially as the season for trying it is at hand.

"Six or eight years ago, a first-class farmer upon a leased place, trimmed the apple trees in midsummer, at which the landlord, who had greater pretensions to farming than his tenant, was very indignant, and threatened a suit for damages; but in one year after, when we saw the stumps, a more perfect success was never accomplished."

Thus it is confessed that trees pruned from the middle of July to the middle of August do best and heal quickest.

Mr. E. B. Coleman.—I tried it in the peach in cutting off the old stock; those done after the first of August died; they would not heal over, but rotted; a branch taken off in June heals over in 4 or 5 weeks; those made in August will not heal over in the first or second year.

N. J. Colman—I should expect the trees to rot and die if I cut off the entire head in August. But I was speaking of pruning not beheading trees. I have found from quite extensive experience, and from frequent experiments, that wounds will heal over in less time when made in August than at any other season of the year. I speak of course of judicious pruning—such pruning as is required in an orchard. By cutting off the entire head of a tree at that late season, as practiced by the former speaker there would be no leaves left to elaborate the sap, and no sap left to heal wounds, and it would be too late to form a new growth of stem and branches to heal the wound.

Dr. Edwards—Are the plums upon which Mr. Riehl propagates the plum and calls the Chickasaw, the wild plum so called all over the country.

Mr. Riehl.—The Chickasaw plum has many sub-varieties; this is a small plum with small cherry-like leaf.

Dr. Edwards—I never saw the true Chickasaw plum here growing wild and but very few in cultivation. Mr. Gains, between this and Carondelet, has the true Chickasaw plum.

Mr. E. R. Mason—Has anything been said about planting seed to protect the tree in the orchard and nursery from the rays of the sun. I will never plant a young tree without being shaded with corn the first year. I have planted a pear orchard of some 6 to 700 trees a year ago, and I think they suffered more from the sun in the winter than even the summer. Where the stems of the trees are exposed the bark is injured; where they are protected the bark is healthy and vigorous. I am protecting my trees with split corn stalks tied upon them; it is also a protection against the rabbits.

THE PEAR.

Dr. Claggett—I have prepared a list of pears that are all very good; there are no doubt other varieties that are good; this is a list for 100 trees—perhaps it will be well to read the list.

Mr. N. J. Colman—There are but three or four persons present who have much experience with pears, and as our time is very limited we can only perhaps give a list that Promises Well.

Mr. Mudd—Giving it as a list that Promises Well is a very summary mode of disposing of the pear; let us see at least what experience we have. I want to know about it. I have 500 trees, and want to know if we have the best. The fruit deserves all the attention we can give it; we can see how we do succeed in it.

President—The fact of not knowing much about the pear is the reason we should discuss.

BARTLETT.

Mr. N. J. Colman—I have the Bartlett in bearing and can recommend it for general cultivation. It is inclined to blight more than some and less than other varieties; is of good quality; does fine for market; succeeds well upon its own roots and on quince.

Mr. Pettingill—I have fruited it for some years; it is liable to blight, not only upon the limbs but the body, but I think I have found out how to make them quite healthy. I have them on a heavy clay sub-soil they were set very deep, and all my bearing trees were struck with blight.

On examining the tree I found the bark was blackened, and this discoloration passing through the alburnum into the heart wood. On scraping off the blackened bark, I found that it did not penetrate further nor spread. I took a spoke-shave and pared off all the blighted bark, and it immediately ceased and the bark became quite healthy. I then adopted the method of cutting off the outer bark till it is as thin as brown paper all over the body of the tree and the large limbs. It commences upon the outer bark, and does not immediately penetrate into the wood. Those that I did this to, two years ago, are quite healthy and are come into bearing. If I cannot get a little spoke-shave to the part, I scrape it with the knife. I have a number of Bartletts on their own roots. The blight appeared about the tenth of June.

DOYENNE D'ETE.

Dr. Claggett—I have had them growing, and fruited for two years. I find I have gathered ripe pears the last days of June and sent them to market. They are a small pear of moderate flavor; sells very high, brought as much per dozen as the Bartlett, and a dozen of Bartletts make as much bulk as four dozen of Doyenne d'Ete. I know of no pear its equal at the season. It is very free from blight; it is not a vigorous grower, and the shoots are slim; it comes into bearing earlier than any other I know of.

Mr. N. J. Colman—It is no earlier than the Madaline.

MADALINE.

E. B. Coleman—I have fruited it upon the Quince and its own stock; it is fine, but keeps but forty-eight hours after ripening; it is liable to blight upon both stocks; it is the earliest pear we have.

Dr. Claggett—A member suggests it is a mistake as to its being earlier than the Doyenne d'Ete. I have not seen it much; the books recommend it, but say it is liable to blight; but for this it certainly promises well; no pear is more subject to the blight than this.

N. J. Colman—I think it ripens with the Doyenne d'Ete; in regard to blight, my experience (having had it planted five or six years) is that the Madaline does not blight.

Mr. Pettingill—I have only one large tree, it was subject to blight; did not blight as much as the Bartlett.

ROSTIEZER.

Mr. Sanders—Its growth is strong and crooked. I don't think it worthy of the list for General Cultivation; promises well; a healthy tree, strong grower, the branches grow round and make the tree one-sided; don't recommend it as superior to Madaline; Tyson is better.

Mr. Kern—I know it in the old country, and cultivate it here, but have not fruited it. I don't think it worth cultivating.

Mr. Riehl—It is very irregular in its growth.

SUMMER FRANKREAL.

Dr. Claggett—I have it upon Quince.

Mr. Mudd—I have had a limited experience with it in Illinois, and lost all the trees; plant it here; four are blighted, and I think it not worth having.

Mr. Sanders—Knows it well, it is a fine, beautiful pear; bears a full crop; it was upon its own roots; have no experience on the quince, not in this State.

TYSON.

Mr. N. J. Colman—It promises well; it is a fine bearer; a good sized fruit; an early bearer; know it on its own stock; don't know enough of it on quince.

Mr. E. B. Colman—I have it on quince; it bears well.

Mr. Reihl—I have seen it; a dwarf tree; and I think it the handsomest tree I ever saw.

DEARBORN'S SEEDLING.

Mr. Sanders—Promises well; makes a good succession of fruit; good grower; good pear; bears well on the quince; never saw it a standard; keeps long without being too ripe; think it valuable.

Mr. E. B. Colman—On quince a fine tree; bears well; of moderate quality.

Mr. Cousins—I have it a standard, it did well till this year.

Mr. N. J. Colman—It has an objection as a market fruit, it is too small; an early and abundant bearer; hangs two to three weeks on the tree after being ripe.

BLOODGOOD.

Mr. Kelley—Have seen the pear; quality good; don't succeed well as a dwarf. I never saw fine trees of it.

Mr. Kern—It is held as one of the tenderest; tree much injured in the winter.

Dr. Claggett—It is placed in the books as a small pear, ripening in September.

[To be Continued.]

The Tools Great Men Work With.

It is not tools that make the workman, but the trained skill and perseverance of the man himself. Indeed it is proverbial that the bad workman never yet had a good tool. Some one asked Opie by what wonderful process he mixed his colors. "I mix them with my brains, sir," was his reply. It is the same with every workman who would excel. Ferguson made marvelous things—such as his wooden clock, that accurately measured the hours—by means of a common penknife, a tool in everybody's hand, but then everybody is not a Ferguson. A pan of water and two thermometers were the tools by which Dr. Black discovered latent heat; and a prism, a lens, and a sheet of pasteboard, enabled Newton to unfold the composition of light and the origin of color.

An eminent foreign *savant* once called upon Dr. Wollaston, and requested to be shown over his laboratories, in which science had been enriched by so many important discoveries, when the Doctor took him into a study, and, pointing to an old tea-tray, containing a few watch-glasses, test-papers, a small balance, and a blow-pipe, said: "There is all the laboratory I have."

Stothard learnt the art of combining colors by closely studying butterflies' wings; he would often say that no one knew what he owed to these tiny insects. A burnt stick and a barn door served Wilkie in lieu of pencil and canvas. Bewick first practiced drawing on the cottage walls of his native village, which he covered with his sketches in chalk; and Benjamin West made his first brushes out of the cat's tail.

Ferguson laid himself down in the fields at night in a blanket, and made a map of the heavenly bodies by means of a thread with small beads on it, stretched between his eye and the stars. Franklin first robbed the thundercloud of its lightning by means of a kite made with two cross-sticks and a silk handkerchief.

Watt made his first model of the condensing steam engine out of an old anatomist's syringe, used to inject the arteries previous to dissection. Gifford worked his first problem in mathematics, when a cobbler's apprentice, upon small scraps of leather, which he beat smooth for the purpose, while Rittenhouse, the astronomer, first calculated eclipses on his plow handle.—[*Smile's Self-Help.*

GRAMMAR IN RHYME.

The name of the author of the following effusion should not have been allowed to sink into oblivion "unwept, unhonored and unsung."—On the contrary, he deserves immortality, and the gratitude of generations yet unborn, for we have never met with so complete a grammar of the English language in so small a space. Old as well as young should commit these lines to memory, for by their aid it will be difficult if not impossible for them to fall into errors concerning part of speech:

1. Three little words you often see,
   Are Articles *a*, *an*, and *the*.
2. A Noun's the name of any thing,
   As *school* or *garden*, *hoop* or *swing*.
3. Adjectives the kind of Noun,
   As *great*, *small*, *pretty*, *white*, or *brown*.
4. Instead of Nouns the Pronouns stand—
   Her head, *his* face, *your* arm, *my* hand.
5. Verbs tell something to be done—
   To *read*, *count*, *sing*, *laugh*, *jump* or *run*;
6. How things are done the Adverbs tell,
   As *slowly*, *quickly*, *ill*, *or well*;
7. Conjunctions join the words together—
   As men *and* women, wind *or* weather.
8. The Preposition stands before
   A Noun, as *in* or *through* a door.
9. The Interjection shows surprise,
   As *oh!* how pretty—*ah!* how wise.

The whole are called Nine Parts of Speech
Which reading, writing, speaking teach.

Mutton vs. Pork.—Physicians recommend mutton as the most wholesome meat—the easiest digested, and the best suited to invalids, while pork, as everybody knows, is the most unwholesome flesh eaten. In England mutton is a favorite dish, and we apprehend that it is to this more than to roast beef, that the Englishman owes his robust health and rosy complexion.

Our people eat too much pork and not enough mutton, and yet, as a cotemporary well remarks, "mutton can be produced pound for pound at less than half the price of pork; yields more nourishment when eaten, and keeping sheep does not exhaust a farm to the extent feeding hogs does. Sheep can be kept during the winter on hay or turnips, or mangel wurtzel, or sugar beet, while hogs will not do without at least some corn." We would like to see in the papers fewer accounts of big pigs, and more fat sheep.

COAL OIL AS A REMEDY.

Some months ago we published a communication from Prof. J. B. Turner, of Illinois College—and which had appeared in many agricultural papers—setting forth the virtues of Kerosene or coal oil, as a remedy for rheumatism, salt rheum, bruises, and some other complaints. We expressed our belief that it would be found a valuable remedy for the complaints named. We are glad to learn, that it has been tried in several cases of rheumatism and effected cures. The rheumatism is one of the diseases of this country, and a remedy for it is of very great value. We feel that those persons who have been relieved from this disease, by the application of coal oil, owe a duty to *us*, and to *those* suffering from the disease, to furnish the facts of their cure by the remedy named, for publication in this paper. Think of it! Should those who have suffered sleepless nights and painful days, and have been incapacitated from the performance of their daily labors by this disease, neglect, when cured, to give hope to others similarly afflicted, that a remedy, easily attainable, at little cost, is at hand for their relief?

It has come to our knowledge that this remedy has been used in cases of sore throat—sore from colds, perhaps bronchitis—with great advantage, even effecting cures. If this be so, its value can scarcely be appreciated.

We again recommend to persons afflicted with rheumatism, to try this remedy. Bathe the parts affected morning and evening—bathe well—and dry in by the fire. The flavor of coal oil is not agreeable to many, but it soon passes away. Our own opinion is, that it is worth all the nostrums and patent medicines ever invented for the cure of rheumatism.—[*Oregon Farmer.*

Wealth of Old Romans.—According to Cicero, the debts of A. Milo amounted to above $28,000,000, federal currency; Julius Cæsar, when setting out for Spain, is reported to have said to himself, he was $10,000,000 worse than nothing. When he first entered Rome, after crossing the Rubicon, he took from the public treasury $5,500,000, but at the end of the civil war put over $24,000,000 in it. He purchased the friendship of Curio with a bribe of over $2,500,000, and of the Consul L. Paulus, with half that sum.

Crœsus was worth in real estate over $8,000,000, and about as much in money, furniture and slaves. Seneca was worth over $20,000,000. Lentulus, the augur, over $16,000,000. Augustus raised by the testaments of his friends over $161,000,000. Tiberius left at his death nearly $100,000,000, which Caligula spent in less than one year; and Vespasian, at his succession, said that he required for the support of the State over $1,614,000,000. Nevertheless, though greatly enriched by his conquests, imperial Rome never came into the full inheritance of the chief wealth of the East, and the larger quantity of the precious metals must have remained excluded from the calculations of ancient historians.—[*Life Illustrated.*

The Dawn of Love.—It is said if a grape vine be planted in the neighborhood of a well, its roots running silently under the ground, wreathe themselves in a network around the clear, cold waters, and the vines putting on outer greenness and unwonted clusters and fruit is all that tells where every root and fibre of its being has been silently stealing. So those loves are most fatal, most absorbing, in which, with unheeded quietness, every thought and fibre of our lives twine gradually around some human soul, to us the unsuspecting well-spring of our being. Fearful it is, because so often the vine must be uprooted, and all its fibres wrenched away; but till the hour of discovery comes, how is it transfigured by a new and beautiful life! There is nothing in life more beautiful than that trance-like, quiet dawn, which precedes the rising of love in the soul. When the whole being is pervaded imperceptibly and tranquilly by another being, and we are happy, we know not and ask not why, the soul is then receiving all and asking nothing. At a later day it becomes self-conscious, and then come craving exactions, endless questions—the whole world of the material comes in with its counsels and consultation, and the beautiful thing fades forever.—[*Ex.*

Cure of Hydrophobia. — The New York *World's* Paris correspondence says:

Some of the medical journals are giving publicity now to an alleged cure for this terrible disease which is communicated to them by the Rev. R. P. Legrand, who has been for many years a missionary in Syria, where hydrophobia is quite common, and where, he says, he has tried this remedy in sixty different cases, and performed sixty cures. If this be so, and there certainly is no reason to doubt the good father's word, the simple remedy which he proposes should be made known all over the world. It is this: Take three handfuls of the leaves of *datura stramonium*, boil them in a quart of water till it

is reduced to a pint, and make the patient drink the whole as soon as possible after the bite. A violent madness will ensue, but this is of short duration. A profuse perspiration follows, and in twenty-four hours the patient is cured. Cauterization should also be resorted to as quickly as possible, although the reverend father states that he has seen many cures effected where this has not been done.

GOOD TASTE.

Good taste is the "luminous shadow" of all the virtues. It is social discretion, it is intellectual kindness, it is external modesty and propriety, it is apparent unselfishness. It wounds no feelings, it infringes on no decorums, it respects all scruples. A man thus gifted, even though he be not a wit, spreads a genial influence about him from the trust he inspires. The stiff man can unbend, the cold can thaw, the fastidious can repose on him. No one is committed to more than he chooses—no ungenerous use is made of an unusual or transient impulse. Good taste is practical, though not deep, knowledge of character; it is perception of the distinctive points of every occasion: and thus it reconciles and harmonizes where bad taste perpetuates differences and necessitates separations. And yet we by no means wish to make good taste a synonym either for virtue or intellect—it is rather that quality which sets off both at their best. It is an affair, in some degree, of social training—it is one aspect of knowledge of the world. Those who are little in general society—who confine themselves to family intercourse or to that of a set or clique, whatever the position, whatever the intellectual or moral pretensions of that clique—are almost sure to fail in it in new scenes. All persons of a single idea, engrossed by one object, are perpetually infringing on the rules of good taste. If they are religious, they are pragmatical and intolerant, regardless of sensibilities. If they are useful, they do their work with unnecessary fuss. If they are learned, or deep, or clever, they make these good gifts unpopular. If they are merry, we are kept on thorns—if they are grave, they are a check and restraint. They fail in every social crisis. In every difficulty they take the wrong way. They are forward when they ought to be retiring—their diffidence is constantly misplaced. There is no knowing where such people are—to what lengths an emergency or excited spirits will drive them. It is the cause of half the seeming injustice of society. The man of bad taste cannot comprehend why things are not tolerated in him which are allowed in others. He is the last to see that the presence or absence of a correct taste makes the same practice of amusement agreeable or repugnant: that nothing can be judged fairly without taking the manner of doing it into consideration. He is therefore forever grumbling at the inconsistencies of mankind. The fact is, every hinge, with some people, grates and creaks, at each turn jarring on sensitive nerves; while good taste is the oil which keeps the machinery of society, with the least wear and tear, noiselessly and profitably at work.—[*London Saturday Review.*

THE POWER OF STYLE.

Human language may be polite and powerless in itself, uplifted with difficulty into the expression of the high thoughts it utters, or it may in itself become so saturated with warm life and delicious association that every sentence shall palpitate and thrill with the mere fascination of the syllables. The statue is not more surely included in the block of marble than is all conceivable splendor of utterance in Worcester's Unabridged. And as Ruskin says of painting that it is in the perfection and precision of the instantaneous line that the claim to immortality is made, so it is easy to see that a phrase may outweigh a library. Keats heads the catalogue of things real with "sun, moon, and passages of Shakspeare;" and Keats himself has left behind him winged wonders of expression that are not surpassed by Shakspeare, or by any one else who ever dared touch the English tongue. There may be phrases which shall be palaces to dwell in, treasure-houses to explore; a single word may be a window from which one may perceive all the kingdoms of the world and the glory of them. Oftentimes a word shall speak what accumulated volumes have labored in vain to utter; there may be years of crowded passion in a word, and half a life in a sentence.—[*T. W. Higginson.*

The children of sugar growing countries have good teeth, although they almost live upon sugar in one form or other. Housekeepers must spare their allowance upon some other ground than this. Children crave it, and ought to have a liberal supply, as it is a highly nutritious substance. It has also balsamic properties, and assists the respiratory functions. An inordinate quantity, of course, might derange the stomach.

Ed. Valley Farmer: I send you the following recipe for Tea: Take common Sycamore chips, and use it the same as tea. You cannot tell the difference. Just take the chip and cut the loose bark off. Select the yellowest wood for use. J. L. H.

SORE THROAT.

This is a common name for all affections of the throat arising from the excessive use o the voice in public speaking. In some cases the visible parts of the throat only are involved, as the uvula and arches of the palate, the tonsils and fauces; in others the larynx is the seat of inflammation, and sometimes the trachea and bronchial tubes become a prey to this disease.

The object of this article is to glance at the anatomy and physiology of the throat, pointing out the most tender and vulnerable parts, and to show the cause, character and symptoms of this disease, with which public speakers, in this country, are so frequently afflicted, with, here and there, a hint as to the preventive and cure.

The *anatomy* and *physiology* of the visible parts of the throat may be imperfectly seen by taking a mirror, and, after turning your back upon the sun, hold it in such a position that the light may be reflected fully upon your face, and then open not only your mouth, but your throat also, which you can easily do by bringing your mouth to a gaping posture, which will be announced by a peculiar sensation which a certain tube from the throat will give out in the ear. Now imagine your mouth sufficiently enlarged to receive you in person. You enter, and standing upon the tongue, you find yourself almost surrounded by the teeth, which frown upon you like a huge battery of hostile cannon, while before you hangs the uvula, like the pointed keystone of some grand arch of ancient masonry. Passing under this palatal arch, you come to the papillary pillars, situated on the dorsal surface of the tongue, where you have a full view of the tonsils which, like two little mounds overlook the highway of life and speech, and the fauces which stretch away to the mouth of the œsophagus, and the epiglottis, which latter guards the entrance to the larynx. It scarcely need be said that the œsophagus leads to the stomach, and that the larynx opens a passage to the lungs.

The larynx being the upper ring of the wind-pipe, and the seat of the voice, is one of the most wonderful instruments that has ever fallen under the notice of man. It beggars all comparison. The silver trumpet that aroused the camp of Israel to battle, or sounded the jubilee; the enormous bells of tons weight which hung in the Kremlin, at Moscow, and the instruments of music, both ancient and modern, all sink into insignificance when compared with the human voice, which, being capable of ten thousand modulations, serves not only to convey ordinary thought and feeling, but also to sway the multitude by its eloquence, drive the battle, and pour forth the anthems of lofty praise.

The larynx may be imperfectly described thus: Place the elbows at right angles, and bring the forefingers and thumbs almost together in front, and then imagine two other thumbs placed parallel with those you have. Now, suppose this incomplete triangle were inserted in the larynx with the apex downwards, then the two fingers would coincide with the two vocal ligaments, and the four thumbs with the four vocal chords, which latter would vibrate like the reeds of a wind instrument to the current air transmitted from the lungs, thus forming a kind of trumpet blown by the lungs, the wind-pipe serving for a mouth-piece. The sounds thus produced are further modified and rendered articulate by the tongue, teeth, palate and lips. Now, let it be remembered that the entire passage from the mouth to the lungs is lined with one continuous membrane, which is extremely liable to inflammation; so that if inflammation begin even at the palate, it may possibly extend along the fauces to the larynx, and through the wind-pipe and bronchial tubes to the lungs.

The *cause* of this disease is an habitual abuse of the vocal organs combined with cold. What is meant by abusing the voice is, to make a strained effort to speak loud, and long, and fast, without keeping the lungs sufficiently inflated with breath. I here assert that no sound man ever gets hoarse who stands erect, opens well his mouth, and keeps the great boiler of his vocal engine full of steam. His lungs may pour through the organs of speech volume after volume of breath, which, molded into eloquence, will chain an audience for a solid hour; and yet the very same voice which announced the text shall be heard in the benediction. But here is the difficulty: he that speaks with great force and rapidity does not stop to think of his poor lungs, which, had they a moment's respite, would cry out for breath. Hence the necessity of keeping the voice always within an easy compass. The unruly tongue should not be allowed to rob the heart of zeal, the lungs of breath and the head of brains; but it should be tamed, if possible, and well trained. The voice should be husbanded; its moderation should be known to all men; for he has no small gift who has a good voice. The truth is it is one of the brightest stars in the earthly crown of what is properly called a "big preacher."

It is also very important to guard against cold. When the throat is rendered warm by speaking till the blood is up, great care should be taken on going out into the night air, in summer, or the blasts of winter, to protect the mouth and throat, either with comfort or furs. I have suffered no little myself from a cold contracted in my throat by going too suddenly from an extremely warm church into an extremely cold night air.

The *character* of this disease is bad enough, for though, in its first stages, it is generally simple and easy to manage; yet when it extends downwards along the lining membrane of the entire air-passage, as above stated, it may result in consumption and death. See the great necessity, therefore, of arresting the inflammation when it first arises.

Perhaps no disease is marked by *symptoms* at once so bold and plain as this. Suppose, for example, that the inflammation attacks the soft palate, it will be immediately announced by a peculiar sensitiveness as the cool air passes in from without, and on opening the mouth you shall find that the uvula is becoming elongated, and soon it will fall into the throat, occasioning frequent retching and coughing. In such a case the knife is the best remedy. This I know, because I have had mine clipped. A suitable gargle may also be used to advantage.

When the tonsils are involved, they become enlarged and sore, and sometimes ulcerate, involving also the fauces, and indeed the whole visible surface of the throat, with a febrile dryness and a slight difficulty of swallowing as further symptoms, as also hoarseness, on the principle that a horn is hard to blow when it is very dry.

If the disease locate itself in the larynx, then does it become clergyman's sore throat indeed. When inflammation seizes this organ and spreads over the tender chords of voice, it produces extreme hoarseness and almost constant coughing, and, in some instances, the voice is entirely suspended, except a mere whisper, which depends not upon the larynx, but upon the vibration of the tip of the tongue and lips. In this case medical aid should be called in at once.

Bronchitis begins with inflammation in the bronchial tubes, and if it is not speedily cured, there is danger of its running into consumption.

When the inflammation is located above the larynx, it may be easily cured by applying, as a gargle or otherwise, tanic acid, chloride of lime, chloride of potash, turpentine or nitrate of silver. The latter should be used only in acute cases of inflammation or ulceration. Sometimes it becomes necessary to excise the tonsils in order to effect a cure. But when the disease assumes the character of laryngitis or bronchitis, go without delay to the most skillful physician within your reach, for delay is the next thing to death.

Now, reader, whether you are a brother in the pulpit or a friend at the bar, seeing that your organs of speech are so important to your profession and usefulness, and at the same time so tender and so subject to disease, will you not henceforth, if you do not now, endeavor to so train and husband your voice that you may speak with more ease and less danger to yourself; knowing, also, as you must, that a sensible audience asks not so much for *sound* as *sense*.

In conclusion, I would simply remark, that this article is not written for the eye of the physician; for I have not only not aimed to be nicely technical, but have studiously avoided the language of the books. L. R. Downing.

Clarksville, Mo., Jan. 11, 1862.

—[*St. Louis Advocate.*

FARMERS' BOYS.

In the wide world there is no more important thing than farmers' boys. They are not so important now as they will be. At present they are of little consequence too often. But farmers' boys always have been, and we presume always will be, the material out of which the noblest men are made. They have health and strength; they have bone and muscle; they have heart and will; they have ambition and endurance, and these are the materials that make men. Not buckram and broadcloth, and patent leather and beaver fur, and kid gloves and watch seals, are the materials of which men are made. It is not fat and flesh, and swagger and self-conceit; nor yet smartness, nor flippancy, nor foppery, nor fastness. These make fools, not men; not men such as the world wants, nor such as it will honor and bless. Not long hair, nor much beard, nor a cane, nor a pipe, nor a segar, nor quid of tobacco, nor an oath, nor a glass of beer or brandy, nor a dog or gun, nor a pack of cards, nor a novel, nor a vulgar book of love and murder, nor a tale of adventures, that makes a man, or has anything to do with making a man. Farmers' boys ought to keep clear of all these idle, foolish things. They should be employed with nobler objects. They should be men of clear grit—honest, intelligent, industrious men.—[*Valley Spirit.*

LITTLE BY LITTLE.

One step and then another,
And the longest walk is ended;
One stitch and then another,
And the largest rent is mended;
One brick upon another,
And the highest wall is made;
One flake upon another
And the deepest snow is laid.

So the little coral workers,
By their slow but constant motion,
Have built those pretty islands
In the distant dark-blue ocean;
And the noblest undertakings
Man's wisdom hath conceived,
By oft repeated efforts
Have been patiently achieved.

Then do not look disheartened
O'er the work you have to do,
And say that such a mighty task
You never can get through;
But just endeavor day by day
Another point to gain,
And soon the mountain which you feared
Will prove to be a plain.

"Rome was not builded in a day"
The ancient proverb teaches;
And Nature by her trees and flowers,
The same sweet sermon preaches.
Think not of far-off duties,
But of duties which are near;
And having once begun the work,
Resolve to persevere.

☞ A smile may be bright while the heart is sad. The rainbow is beautiful in the air, while beneath is the moaning of the sea.

☞ Do not all you can, spend not all that you have, believe not all you hear, and tell not all that you know.

People who suppose that a good prayer is preferred to a good act, doubtless imagine that God has more hearing than eyesight. The end, we fear, will show that they reasoned from false premises. The poor are oftener prayed for than helped. The reason is, we believe, that air is cheaper than bullion.

Domestic Department.

SOFT SOAP.

To observe the following rules, women will not have many failures in making good soap:

In setting leach, raise a perforated bottom just above the hole where the lye escapes. On that place straw enough to prevent the ashes from going through. Then throw in about one peck of slaked lime, leveling off the same over the straw. Put into the centre of your heap of ashes about one-half bushel of lime to ten of ashes. Slake the lime and mix well with ashes. Fill your leach, pounding down the ashes as hard as your strength will permit, or at least so that the lye will not get through in less than three days. On the top of the ashes put some straw and flat stone on which to pour water. Thus completed, commence with water, but not rapidly, for the longer it may be soaking through, the better will be the lye.

Your leach being prepared, turn your attention to your grease, which is most generally a poor article. Twenty pounds of good tallow is required for a barrel of soap, and it is often the case that fifty pounds of common house grease has not the body of twenty pounds of tallow. You should, in order to know the real quantity of good stock you have, always boil and clean your grease, and throw the refuse away, for it is valueless in making soap, and is generally the great cause of preventing the perfect amalgamation of the grease and lye, containing, as it always does, more or less salt, which is a positive bar to making soft soap, while an absolutely necessary ingredient in the manufacture of hard soap.

Having then got a clean grease and good caustic lye, such as you will have from a leach filled as above suggested, you will have no difficulty, over a gentle fire, of having good soap in a few hours.

Practical soap boilers have no guide for the quantity of lye for a certain quantity of fat, as the lye differs much in its strength; they rely, therefore, entirely on their taste. In making soft soap, when it boils up black in its color, it has generally lye enough, and should then be increased by weak lye. Adding water is wrong. Soap should always be increased with lye, no matter how weak the same may be.—[Country Gentleman.

The Measles.—A correspondent of the "Detroit Advertiser" says that a decoction of oats is infallible for the cure of measles. Take a pint of oats and put them into a tight vessel; pour on boiling water and let it stand a short time, then give it to the sick person to drink. It must be pretty warm. In fifteen minutes you will see a change for the better.

New Use for Coal Oil.—Coal Oil is said to be a sure destroyer of bed bugs. Apply plentifully with a small brush or feather to the places where they most do congregate. The cure is effectual and permanent. Gilt frames, chandeliers, &c., rubbed slightly over with coal oil, will not be disturbed by flies.

Apple Cream.—Peel and core 5 large apples, boil in a little water till soft enough to press through a sieve; sweeten, and beat with them the beaten whites of 3 eggs, serve it with cream poured around it.

Chicken Salad.—A tender broiled chicken, the skin taken off and cut up very fine, one-third as much celery as chicken, mix the yolks of two hard boiled eggs, tablespoonful of vinegar, salt-spoon of salt, pepper and sweet oil.

Boiled Chicken.—Equal quantity of celery, 1 tablespoonful sweet oil, 1 of mustard, 2 of vinegar, 1 of salt, pepper, 2 boiled eggs, chop whites, mash yolks, press together.

Mince Meat.—6 lbs. of meat, 3 of suet, 6 of raisins, 7 of sugar, 9 of apples, 1 pint of wine, 3 gills of brandy, half pint molasses, 1 pint rose water, essence of lemon, 1 quart of liquor of the meat, 1 cup of salt, one-fourth of a pound of cinnamon, or orange peel, 3 ounces of cloves, 1 dozen nutmegs, add a little cider if you wish before putting in the oven.

Pickle for Beef.—To one-half barrel of beef, 1½ pails of water, 6 quarts of salt, 4 quarts saltpetre, 4 lbs. sugar; sprinkle 4 quarts of the salt on the beef as you lay it down, boil the rest, skim and pour over the beef while hot.

Hock.—1 pound of rump steak, 1 lb. of pork steak, half a loaf of bread, chop all together like sausage meat, add 2 beaten eggs, and season with salt, pepper, and sage, or summer savory; bake like a loaf of bread; to be cut in slices and eaten cold.

Scalloped Oysters.—Wash out of the liquor 2 quarts of oysters, pound very fine 8 soft crackers, or grate a stale loaf of bread; butter a deep dish, sprinkle in a layer of crumbs, then a layer of oysters, a little mace, pepper, and bits of butter; another layer of crumbs, another of oysters, then seasoning as before, and so on until the dish is filled; cover the dish over with bread crumbs, seasoning as before; turn over it a cup of the oyster liquor; set it into the oven for 30 or 40 minutes to brown.

A Dressing for Sandwiches.—Take half a pound of nice butter, 3 tablespoonsful of mixed mustard, 3 spoonsful of nice, sweet oil, a little white or red pepper, a little salt, the yolk of one egg; braid this all together very smoothly, and set it on the ice to cool. Chop very fine some tongue and ham; a little cold chicken is very nice added. Cut the bread very thin, spread it with the dressing; then spread over the meat, then the bread, and press it together very hard; trim off the edges, that the sandwiches may be all one size.

Wine Jelly.—Soak half an ounce of gelatine in half a pint of water fifteen minutes, then add half a pint of boiling water, set it on the fire, keep stirring it till the gelatine is dissolved, add the juice of two lemons, sugar to your taste, and Madeira wine enough to make a quart in all; strain it and set it to cool.

Lemon Pie.—Take 4 lemons, grate the rind, squeeze the juice, chop the pulp very fine, 4 teacups of sugar, the yolks of 6 eggs, 2 teacups of milk, 4 tablespoonsful of corn-starch; beat well together and bake; beat the white of the eggs with 6 tablespoonsful of white sugar to a froth; when the pies are baked, put the froth over them, and set them in the oven for 5 minutes.

Beefsteak with Smothered Onions.—Cook the beefsteak as usual; cut up 6 onions very fine, put them into a saucepan with a cup of hot water, a piece of butter about the size of an egg, some pepper, salt, and a little flour; let it stew until the onions are quite soft; turn this over the steak quite hot.

Eve's Pudding.—Grate three-fourths of a pound of stale bread, and mix it with three-fourths of a pound of fine suet, the same quantity of chopped apples and dried currants, 5 eggs, and the rind of a lemon; put it into a mold, and boil it three hours; serve it with sweet sauce.

Cranberry Roll.—Stew a quart of cranberries in just water enough to keep them from burning; make it very sweet, strain it through a cullender, and set it away to cool; when quite cold, make a paste as for apple pudding; spread the cranberries about an inch thick; roll it up in a floured cloth, and tie it close at the ends; boil it two hours, and serve it with sweet sauce. Stewed apples, or any other kind of fruit, may be made in the same way.

Editor's Table.

A $65 PREMIUM FOR THE BEST ESSAY ON THE CULTURE AND MANUFACTURE OF SORGHUM.

In view of the great importance which Sorghum Culture and its Manufacture is rapidly assuming, and the great dearth of reliable information suited to the wants of our Western farmers, we have concluded to offer the above splendid Premium, to consist of a **Singer's Letter A Sewing Machine,** to the writer of the Best Practical Essay on the Culture of Sorghum and its Manufacture into Sugar and Molasses. It must embrace within 16 Octavo pages or less, the most comprehensive yet simple directions necessary to enable any of our subscribers to grow this valuable product and engage in its manufacture to such an extent as may come within their own desires and means—a simple compendium of details that all may understand and put in practice without great expense or unnecessary trouble.

We make this offer without regard to the expense, as an evidence of our interest in the prosperity of our subscribers and in the development of this new product—so important in the present state of affairs to the West.

All who desire to compete for the above valuable Premium (and all who are posted know the great reputation of the Singer Machine) must send their Essays addressed to NORMAN J. COLMAN, the Editor, on or before the first day of December next.

Premiums to Subscribers.

Our Friends Can Now Aid Us.

The present Volume is drawing to a close. To enable our readers to increase our circulation, we have been induced to offer to send GRATIS the three last numbers of the present year to every one who will now subscribe for the next volume, and in addition a valuable PREMIUM, an ESSAY ON THE CULTURE AND MANUFACTURE OF SORGHUM. This should be sufficient inducement for every one to subscribe, as it is really offering the FARMER for less than its actual cost. Our object in conducting this journal, however, has never been for the mere purpose of making money by the enterprise. We have a higher object, a more worthy ambition. We see in this Great Valley one of the best agricultural regions in the world. We wish to see it peopled by the most intelligent population. We wish to have its fertility, its wonderful productiveness preserved, and not wasted, as it has been in the older States, by an improper, unenlightened system of culture. Every resident of the West should feel likewise. He should not only feel this way, but he should work for the accomplishment of it. He should ask himself how he can best accomplish this noble object. And upon reflection he will say one of the best means is to enlighten the masses, to induce them to read, reason and reflect. And especially should they read agricultural journals, and particularly their local agricultural journals, if no other. Many have taken Eastern agricultural papers, but being published for a different latitude, where the climate, soil and productions to a considerable extent are different, and finding the information in them not adapted to their uses, have dropped them and concluded that all agricultural journals are equally valueless.

We endeavor to adapt our journal to the wants and interests of Western farmers. Upon them we depend for the support of our journal. It is for their benefit it is published, and we confidently ask them to lend a helping hand in extending its circulation. Get your neighbors and friends to take it. Induce them to work also in extending its circulation. In these times particularly, a little aid from each of our patrons will be most thankfully received.

EVERY SUBSCRIBER now for 1863 will receive with the January number a valuable PREMIUM ESSAY ON SORGHUM CULTURE AND MANUFACTURE, and the last three numbers of the present volume. The Essay alone being worth the subscription price of the Valley Farmer.

To single subscribers, the FARMER and ESSAY will be sent for 1863 for $1.

In clubs of four or more for the same time at 75 cents each. Or any one who will send us the names of two NEW subscribers and two dollars, shall receive the FARMER and ESSAY the same length of time FREE.

Every person sending us a Club of Eight subscribers and Six Dollars, shall receive in addition to the FARMER and ESSAY Gratis, the WATER CURE JOURNAL or HYGIENIC TEACHER for one year, published by Fowler & Wells, New York, at $1 per annum—a most valuable work and one which should be read by all.

Every person sending us a Club of 16 subscribers and $12 shall receive the FARMER for 1 year and the last 3 numbers of the present year and the Premium ESSAY Gratis, and in addition to this the Water Cure Journal one year, and an Agricultural Book worth One Dollar—or Two Dollars worth of Garden or Field Seeds. Any lady sending 16 subscribers and $12 shall receive GODEY'S LADY'S BOOK Gratis for one year, published at $3 per annum. Ladies enlist in the work of increasing our circulation, and you will be well repaid in perusing the LADY'S BOOK.

Every person sending us a Club of 32 subscribers and $24, shall receive the FARMER for 1 year and the last three numbers of the present year and the Premium ESSAY Gratis, and in addition to this the Water Cure Journal one year, and Agricultural Books worth Three Dollars—or Garden or Field Seeds to the value of Four Dollars.

Will our friends take this matter in hand at once. DON'T WAIT TILL JANUARY. By commencing now, new subscribers secure the last three numbers of the present year. Before our next issue, we hope to receive scores of Clubs from all parts of the West.

GRAPES IN WESTERN NEW YORK.—In a private letter from C. L. Hoag, of Lockport, New York, which we received last spring, he said that he would name a few of the grapes which he had tested and found to succeed well, in the order of their ripening, and named the Hartford Prolific, Perkins, Delaware, Concord, Garrigues, To Kalon, Rebecca and Diana. "The Northern Muscadine," he said, "was highly esteemed by some for home consumption; but drops so easily that it is worthless for market. The Isabella and Catawba are not reliable in this section. The Isabella seldom ripens in the open ground, and the Catawba never."

THE HYGIENIC TEACHER.—The "Water Cure Journal," so long and favorably known to the public, has changed its name to the HYGIENIC TEACHER. It is still published in the same form, and is more attractive and valuable than ever. We can with all our heart recommend it to the public. No intelligent reader will ever regret subscribing for it. It is published by Fowler & Wells, New York, at $1 per year.

ED. VALLEY FARMER: Being unable to get information in this neighborhood where good breeds of sheep (Cotswold or Leicester and Spanish Merino) could be purchased, I determine to mail these few lines to you, and ask if you could give me the information I want. By letting me know as soon as convenient, you will greatly oblige one of your subscribers.

Respectfully yours, E. J. PURY.

P.S.—The nearer to St. Louis the above spoken of sheep could be had, the better.

Highland, Madison Co., Ill., Sept. 12, 1862.

[If any of our subscribers have the above named sheep for sale, they may inform our friend of the fact. —Ed. V. F.

CONTENTS OF NO. 10.

Agricultural.

Farmers Should Read More, - - - 289
Draining; Cement for Stoves, - - - 290
Essay on the Cultivation of Field Crops and Preparation of Soils, - - - 291
Straw as Fodder, - - - - 293
Alternation of Crops; Rye, - - - 295
Mortar for Building, - - - 296
The Grain Weevil; Raising Turkeys; Sorgho Culture and Manufacture, - - - 297
Cheap Cisterns, - - - - 298
Farmers' Club of St. Charles, Mo. - 299

Stock Department.

Veterinary Department—Colic in Horses and Its Treatment, - - - - 300
White Clover for Brood Mares, - - 301
Sheep on Wheat Farms; Cleaning Milk Vessels; Treatment of Horses' Feet; Quinsy in Hogs, 302
Ox Teams and Horse Teams; The Tax on Dogs, 303
Rearing and Management of Swine; Value of Shelter for Sheep; To Cure Cracks on Cows' Teats, - - - - - 304

Horticultural.

The Three-banded Tree Hopper—a New Foe of the Grape Vine, - - - 305
The New Rochelle or Lawton Blackberry; The Apple Tree Borer; Propagation of Herbaceous Perennials, - - - 307
Grape Growers' Maxims, - - - 308
Keeping Grapes; Hints about the Dahlia, 309
Meramec Horticultural Society, - - 309
The Profits of Fruit Growing, - - 309
Mo. State Horticultural Society, - - 310

Home Circle.

The Tools Great Men Work With; Grammar in Rhyme; Mutton vs. Pork, - - 313
Coal Oil as a Remedy; Wealth of Old Romans; The Dawn of Love; Cure for Hydrophobia, 314
Good Taste; The Power of Style, - - 315
Sore Throat, - - - - 316
Little by Little (Poetry); Farmers' Boys, 317
Domestic Receipts, - - - 318

Editor's Table.

319.

AGENTS WANTED.—I wish a number of good and reliable men to sell Fruit and Ornamental Trees, Grape Vines, &c., from my nurseries, on commission, or I will furnish at wholesale, at unprecedented low rates. Correspond with the Proprietor,

o2t] J. H. HARGIS, Star Nurseries, Lagrange, Mo.

BULBS.

We have just received direct from Holland the following selected Flowering Bulbs:

HYACINTHS, FINE VARIETIES.
TULIPS, CROCUS, NARCISSUS,
SNOWDROP, RANUNCULUS, LILY, &C.

Blunden, Koenig & Co.

Western Agricultural Depot and Seed Store,
No. 56 Second St. above Pine, St. Louis.

FRUIT AND ORNAMENTAL TREES,
Evergreens, Grapes, Shrubs and Roses,
AT WAR PRICES.

J. H. HARGIS OF THE STAR NURSERIES,
1¼ miles west of Lagrange, Mo.

Offers a large and reliable stock of Trees and Plants for planting during the Autumn of 1862 and coming Spring, at VERY LOW RATES.

40,000 Apple Trees, 2 and 3 years old, stocky, embracing over 50 varieties, at 12½ cents each, $10 per hundred, $70 per thousand, or $60 per thousand for five thousand or more.

Peach, Pear, Plum, Cherry, Apricot, Nectarine and Quince Trees; Ornamental Trees, Evergreens, Roses, Shrubs, Dahlia Roots, and a splendid assortment of SMALL FRUITS, at equally low rates. Over 20 varieties of Choice Grapes.

Those wishing to sell trees on commission, would do well to call on me. Trees, &c. warranted true to name. o2t

OHIO NURSERIES,
TOLEDO, OHIO.

I beg leave to call the attention of Tree Dealers, Fruit Growers, and others wishing to beautify their Grounds, to my stock of FRUIT AND ORNAMENTAL TREES, consisting of

APPLE TREES, Standards and Dwarfs, 1 to 4 yrs. old.
PEAR " " " 1 to 3 "
PLUM " Standards, 1 to 2 "
CHERRY " Standards and Dwarfs, 1 to 2 "
PEACHES, NECTARINES, AND APRICOTS, 1 "
ORANGE QUINCE, 2 to 3 "
GRAPE VINES, including a general assortment of all the new native varieties grown in the open air.
CURRANTS, Red and White Dutch, Red and White Grape, Black Naples, Victoria, Cherry, and Fertile De Pallua, of which I have a large and very fine stock
GOOSEBERRIES, mostly Houghton's Seedling, 1, 2 and 3 yrs. old.
RASPBERRIES, all the leading varieties.
BLACKBERRIES, " " "
STRAWBERRIES, " " "
PIE PLANT, Linnæus and Victoria.

SEEDLINGS AND STOCKS.

APPLE, Seedlings, 2 yrs. old.
PLUM " 1 yr. from the large Blue or Horse Plum.
WHITE MULBERRY Seedlings.
ANGERS QUINCE STOCKS, from layers and cuttings, 1 yr
DOUCAIN " " "

EVERGREENS.

AMERICAN ARBOR VITÆ, 2 yrs. transplanted, 6 in to 2½ ft. high.
BALSAM FIR, " " "
NORWAY SPRUCE, " " "
AMERICAN SPRUCE, " " "
AUSTRIAN PINE, " " "
ROSES, a large and fine assortment.
DAHLIAS, " " "
PEONIES, Herbaceous.

Also, a fine assortment of Deciduous Ornamental Trees, Shrubs, &c.

I offer the above for the Fall Trade of 1862, at low rates, and would solicit the orders of those wishing to purchase. Enclose stamp, and send for Catalogue and Price List. H. A. ENSIGN, Proprietor.

t[July'62] Ohio Nurseries, Toledo, Ohio.